Date: January 11, 2012

To: Audit, Finance & Enterprise Committee

From: Jennifer Ruttman, City Auditor

Subject: Fleet Services – Audit of Fuel Management

Pursuant to the Council-approved Audit Plan, the City Auditor's office has completed an audit of Fleet Services Fuel Management. The final report, which includes 5 Corrective Action Plans (CAPs), is attached. Also included are management responses from Fleet Services, for CAPs #1-#4, and from the Police Department, for CAP #5. My office will perform a follow-up review in approximately 1 year, to verify that the planned corrective actions have been implemented effectively.

We would like to extend our appreciation to the staff members of the Fleet Services, Police, and Information Technology departments, for their time, cooperation, and assistance throughout this audit.

Please feel free to contact me if you have any questions.

AUDIT REPORT   **CITY AUDITOR**

Report Date: **December 20, 2011**
Department: **Fleet Services**
Subject: **Audit of Fuel Management**

OBJECTIVE
Determine whether City fuel is adequately procured, safeguarded, and accounted for.

SCOPE & METHODOLOGY
To accomplish our objective, we interviewed City staff members, observed fuel sites, and reviewed fuel invoices, fuel and fleet system configurations, and internal fuel transactions for fiscal year 2011.

BACKGROUND
In fiscal year 2011, the City spent about $5.5 million for fuel services. Of this amount, about $5.3 million represents the cost of fuel, and the remainder was for services and commodities needed to maintain the fuel infrastructure and comply with environmental regulations.

About 99% of the fuel used by the City is diesel (47%) and gasoline (52%) – a combined total of approximately 1.86 million gallons during fiscal year 2011. The fuel is purchased under contract from Supreme Oil Company based on a national price index and delivered as needed to seven fuel sites. It is then stored in above- or below-ground tanks that are generally between 10,000 and 15,000 gallons each. The remaining 1% of fuel used by the City is compressed natural gas (CNG), which is supplied by the Energy Resources Division and compressed by Fleet Services at two sites.

Various departments are involved in managing the City's fuel. Fleet Services employs a full-time Fuel Services Specialist to maintain the equipment, inspect and clean the fuel sites on a daily basis, and observe all fuel deliveries.   In addition, Fleet administrative staff members spend time managing the FleetAnywhere and FuelForce systems, reviewing authorization exceptions, and reconciling fuel inventories. Since the Mesa Fire Department (MFD) maintains its own fleet, it also manages its own fuel and authorization exceptions. Also involved is the Development & Sustainability Department, which manages a process to ensure environmental compliance.

To obtain fuel, an authorized user generally must enter an employee ID (EEID), vehicle code, and odometer reading into a keypad at the pump. The FuelForce system then authorizes or

rejects fueling based on certain criteria. For example, vehicle codes and EEIDs must be valid; odometer changes must be within a specified range; and a vehicle cannot be refueled beyond its total fuel capacity within a 2-hour time span. Fuel is also dispensed for non-vehicle related purposes, such as for use in landscaping equipment, generators, etc., but there are fewer controls in place to manage this type of fuel use. FuelForce records all transactions, and the fuel costs are allocated to the user departments each month as a component of their equipment usage rates.

CONCLUSION

Overall, it is our opinion that the City's fuel is adequately procured, safeguarded, and accounted for. Although we noted no instances of fraud or abuse, we did identify a few opportunities to further reduce risks, as noted in the recommendations listed below. For additional details, please see the attached Corrective Action Plans (CAPs).

RECOMMENDATIONS

1. Fleet Services should improve the FuelForce automated authorization process by:
    a. Ensuring that validation checks are appropriate for all vehicles;
    b. Identifying and deactivating unnecessary vehicles and fuel cards;
    c. Verifying that new fuel cards have been authorized by appropriate supervisors and/or RC managers; and
    d. Monitoring all changes to the FuelForce system. (See CAP#1)

2. Fleet Services and the MFD should improve IT access controls by granting users access only to functions that are essential to their job duties. (See CAP#2)

3. Fleet Services should improve controls over miscellaneous fueling by:
    a. Considering requiring proximity cards to obtain fuel at certain sites;
    b. Reducing recorded gallon capacities and/or adding 2-hour wait times for each miscellaneous vehicle code; and
    c. Developing and reviewing exception reports that highlight unusual transactions or patterns. (See CAP#3)

4. Fleet Services should improve physical security over fuel sites by closing fuel site gates during unpopulated hours and/or implementing other methods for securing the tanks. (See CAP#4)

5. The Police Department should work with the Information Technology Department and Fleet Services to improve controls over leased police vehicle fueling by developing/reviewing fuel usage reports; and/or applying odometer validations to each leased vehicle. (See CAP#5)

Other Pertinent Information

An inherent risk of providing fuel in-house is the possibility of incurring regulatory non-compliance penalties and/or fuel leak remediation costs. The regulatory environment is complex, involving federal, state, and county agencies. Perhaps the most notable cost incurred

by the City has been remediation of a 1980s fuel leak at the Sixth Street location. Although the Development & Sustainability department does not have historical remediation cost figures, a representative asserted that the costs have at least exceeded $1 million. Other compliance costs are likely less significant, but pose a risk nonetheless.

We did not assess regulatory compliance during our audit, primarily because the Development & Sustainability department actively monitors compliance, including performing internal inspections. Further, department representatives asserted that the City has been in substantial compliance and avoided fines for several years since implementing the compliance monitoring program. However, they also maintain that leaks often cannot be identified until underground storage tanks are eventually decommissioned.

CAP #1: Improvements to Fuel Authorization Process

Observations: Taken as a whole, Fleet's process for authorizing fuel usage incorporates strong internal controls. However, we noted the following areas for improvement:

1. FuelForce validation checks were turned off for several vehicles. Specifically, of 1,567 vehicles reviewed, 9 were exempt from odometer validations and 337 did not have to wait 2-hours between tank refills.

2. Fleet does not attempt to identify FuelForce vehicles or fuel cards that are no longer needed. We noted 177 vehicles and several fuel cards with no fuel transactions in FY 2011.

3. Fleet does not review system changes to vehicles, fuel cards, or validation parameters to ensure that they are appropriate.

Comments: Fleet Services relies on FuelForce to automatically prohibit fueling if certain criteria are not met (known as validation). However, if FuelForce vehicles and fuel cards remain in the system when they are no longer authorized for use, or if the validation checks on them are turned off, they could be used to fraudulently obtain fuel without triggering detection.

Recommendations: 1. Fleet should ensure that FuelForce validation settings, including odometer validations and 2-hour wait requirements, are appropriate for all vehicles.

2. Fleet should periodically identify and deactivate unnecessary FuelForce vehicles and fuel cards.

3. Fleet should develop a process for ensuring that new fuel cards have been properly authorized, such as requiring supervisors and/or RC managers to sign a request or send an email to Fleet administrative staff.

4. Fleet should work with the Information Technology Department (ITD) to develop reports that notify Fleet administrative staff of changes to FuelForce vehicles, fuel cards, or vehicle validation criteria, and verify that all changes are appropriate.

CAP #2: Improvements to FuelForce & FleetAnywhere Systems Access Controls

Observations:

1. At the start of the audit, all FuelForce system users had administrator access rights, which gave them the ability to modify fuel authorization settings.

2. Several Fleet and MFD FleetAnywhere users had access rights that enabled them to create and/or modify vehicles in the system, despite having job duties that did not require them to do so. In addition, system administrator rights were inappropriately held by an MFD staff member.

Comments:

As noted in CAP #1, if FuelForce vehicles or fuel cards do not represent authorized vehicles or users, or if the validation checks on them are turned off, they could be used to fraudulently obtain fuel. Therefore, the ability to modify this information in the system should be limited to those few employees whose job duties require it. In addition, since vehicle creation is initiated in FleetAnywhere, access should be similarly limited in that system.

Prior to the audit, Fleet staff members were unaware that different FuelForce system users could be assigned different levels of access; however, the excessive FleetAnywhere system access rights resulted from a lack of recent review. Both Fleet and the MFD resolved these access issues prior to the completion of the audit.

Recommendations:

1. Fleet should continually ensure that users only have access to FuelForce functions that are necessary for their job duties. Special care should be given when granting system administrator rights or access to fuel authorization settings.

2. Fleet and the MFD should continually ensure that FleetAnywhere users are only granted vehicle creation or system administrator rights if their job duties warrant it.

CAP #3: General Lack of Control Over Miscellaneous Fueling

Observations: The controls over obtaining fuel for miscellaneous purposes are weak or inappropriate. Further, there are virtually no reviews of usage.

Comments: Fleet has established FuelForce vehicle codes that are used for refueling miscellaneous equipment. This includes items such as tractors, small lawn equipment, generators, and fuel containers used to refuel this equipment onsite. Although miscellaneous fueling represents less than 1 percent of total fuel usage, it is subject to a higher risk of fraud than vehicle fueling, due to several control limitations.

Preventive controls are lacking as follows:
1. Fuel can be obtained for miscellaneous equipment by entering a vehicle code and an active EEID. The nature of the miscellaneous fueling prevents odometer validations that would otherwise serve as a preventive control.

2. The vehicle codes used for miscellaneous equipment have designated fuel capacities that are generally far greater than necessary and/or they do not have the standard 2-hour minimum wait time between refueling. Such limits would make it more difficult to dispense large amounts of fuel for an unauthorized purpose, as multiple transactions and/or longer wait times between transactions would be required.

The lack of preventive controls over this fuel usage creates a need for stronger detective controls. However, neither Fleet nor the user departments routinely review this type of fuel usage. Some staff members indicated that exception reports pointing out odd transactions or patterns, such as individuals with an unusual number of transactions, or significant volume variances, would be helpful to them; and ITD's FuelForce/ FleetAnywhere application administrator indicated that developing such reports would be a relatively simple process. It may also be beneficial to some departments to maintain fuel logs, to improve accountability for miscellaneous fuel dispensed from secondary storage containers.

Recommendations: To improve controls over miscellaneous fueling, Fleet should:

1. Consider implementing proximity card readers, at least at the less-secure fueling sites (6th Street, EMSC, Magma) to ensure that only authorized staff with City of Mesa access cards can obtain fuel.

2. Reduce the specified gallon capacities and/or add 2-hour wait times, as appropriate, for each miscellaneous vehicle code.

3. Work with ITD to develop exception reports that highlight unusual transactions or patterns; and follow-up on exceptions and/or distribute them to the departments for review and resolution.

CAP #4: Physical Security Improvements

Observations: Storage tanks at the primary fuel sites - 6th Street and the East Mesa Service Center (EMSC) – are accessible to the general public during certain days/hours.

Comments: The fuel tanks at these locations are located behind mechanical gates operated by an access card. The gates remain open during the day, Monday through Saturday, which presents little risk when City employees are present. However, employees are not consistently present most days at EMSC and on Saturday afternoons at 6th Street. There are no alternative security measures in place, such as locking fill pipes on the tanks or dedicated security cameras. Without this physical protection, the fuel is vulnerable to theft.

Recommendations: Fleet should:

1. Request that Municipal Security close the gates to the 6th Street and EMSC fuel sites during unpopulated hours (currently all daytime hours for EMSC and Saturday afternoons for 6th Street); and/or

2. Implement additional physical security measures, such as installing locking fill pipes on the tanks or installing dedicated security cameras.

CAP #5: Lack of Controls Over Leased Vehicle Fueling

Observations: The only control over fuel usage by leased Police vehicles is that users have to enter a vehicle code and EEID. The Police Department (PD) does not review fuel usage to ensure that it is appropriate.

Comments: The PD leases about 35 vehicles at a time for undercover purposes. All of these vehicles currently refuel under a single vehicle code, making it impossible to validate odometer readings. As with miscellaneous fueling, this provides an opportunity for individuals to inappropriately dispense fuel and places a greater emphasis on the need for detective controls. The PD currently does not review fuel usage, although representatives said they would do so if provided a usage report by EEID. They also indicated that they would support using separate vehicle codes for each leased vehicle (thus allowing odometer validations), if doing so is administratively feasible for Fleet.

Recommendations: To provide better controls over leased vehicle fueling, the Police Department should:

1. Work with Fleet and ITD to develop fuel usage reports; and periodically review these reports to ensure that fuel is only being used for City business.

2. Work with Fleet to assess the feasibility of using separate vehicle codes and applying odometer validations for each leased vehicle.

Please enter your response to each recommendation into the white cells below.

	Agree Or Disagree	Brief Summary of Implementation Plan (NOTE: If recommendation will not be implemented, please explain your alternative plan to address the observation.)	Estimated Implementation Date (Month/Yr)
CAP #1: Improvements to Fuel Authorization Process			
Rec #1	Agree	Fleet should ensure that FuelForce validation settings, including odometer validations and 2-hour wait requirements, are appropriate for all vehicles.	
		Fleet will audit all active Fuel Force vehicles and work orders to ensure proper validations in place per normal vehicle operation or documented department request.	Feb 2012
Rec #2	Agree	Fleet should periodically identify and deactivate unnecessary FuelForce vehicles and fuel cards.	
		We will request a query report to identify vehicles and cards which meet the criteria. On occasion there are valid reasons why there has been no activity, but in reviewing the audit findings most cases are historical oversights.	Feb 2012
Rec #3	Agree	Fleet should develop a process for ensuring that new fuel cards have been properly authorized, such as requiring supervisors and/or RC managers to sign a request or send an email to Fleet administrative staff.	
		Fleet will continue to provide a fuel card for new vehicles put in service. However, we will require proper department authorization to grant employee key pad authorization for fuel.	In place
Rec #4	Agree	Fleet should work with the Information Technology Department (ITD) to develop reports that notify Fleet administrative staff of changes to FuelForce vehicles, fuel cards, or vehicle validation criteria, and verify that all changes are appropriate.	
		We concur that an administrative review of any changes as mentioned is beneficial. Unfortunately the vendor does not currently maintain a transaction log that would provide this data. We have spoken with the vendor regarding creating a file in future updates. We have implemented a formal log for all miscellaneous fuel transactions by Fleet staff.	January 2012
CAP #2: Improvements to FuelForce & FleetAnywhere Systems Access Controls			
Rec #1	Agree	Fleet should continually ensure that users only have access to FuelForce functions that are necessary for their job duties. Special care should be given when granting system administrator rights or access to fuel authorization settings.	
		Fleet staff who was responsible for this system were not aware of the security level issues until questioned in the audit. This resulted in a follow up conversation with the vendor and appropriate changes have been implanted.	In place

	Agree Or Disagree	Brief Summary of Implementation Plan (NOTE: If recommendation will not be implemented, please explain your alternative plan to address the observation.)	Estimated Implementation Date (Month/Yr)
Rec #2	Agree	Fleet and the MFD should continually ensure that FleetAnywhere users are only granted vehicle creation or system administrator rights if their job duties warrant it.	
		As a result of this audit there are two individuals in Fleet Services and one in MFD that have full administrator access. These individuals determine the level of access staff have to the system. When employees terminate ITD removes all their computer access rights. MFD has addressed the issue for their users.	In place
CAP #3: General Lack of Control Over Miscellaneous Fueling			
Rec #1	Disagree	Fleet should consider implementing proximity card readers, at least at the less-secure fueling sites (6th Street, EMSC, Magma); to ensure that only authorized staff with City of Mesa access cards can obtain fuel.	
		Our current Fuel Force site terminals can be modified to replace the existing card readers with proximity card readers at an estimated hardware cost of $10,000. We have requested a budget estimate from the vendor to request funding next fiscal year. Changing to proximity card readers will require a software change as the current system assumes any City of Mesa employee is eligible to obtain fuel if they have a valid fuel card and the unit being fueled meets system established criteria. Proximity card authorization will require transferring data from Municipal Security to the Fuel System which means that Fleet no longer has control of valid fuel users. This proposal may be a viable alternative to cards but an in depth feasibility study must be done prior to making an implementation decision.	TBD/Budget System Design
Rec #2	Agree	Fleet should reduce the specified gallon capacities and/or add 2-hour wait times, as appropriate, for each miscellaneous vehicle code.	
		Fleet has requested and received formal documentation from all Department Supervisors who utilize miscellaneous fuel regarding fuel requirements and made the necessary changes. We are also investigating the feasibility of installing smaller fuel tanks for Parks and Cemetery on site.	Ongoing
Rec #3	Agree	Fleet should work with ITD to develop exception reports that highlight unusual transactions or patterns; and follow-up on exceptions and/or distribute them to the departments for review and resolution.	
		The fuel system administrators will develop exception criteria reports.	Subject to ITD resources (City Edge)

	Agree Or Disagree	Brief Summary of Implementation Plan (NOTE: If recommendation will not be implemented, please explain your alternative plan to address the observation.)	Estimated Implementation Date (Month/Yr)
CAP #4: Physical Security Improvements			
Rec #1	Disagree	Fleet should request that Municipal Security close the gates to the 6th Street and EMSC fuel sites during unpopulated hours (currently all daytime hours for EMSC and Saturday afternoons for 6th Street); AND/OR implement Rec #2.	
		Fleet is not in a position to dictate Yard Schedules as the yards are used by multiple departments.	
Rec #2	Agree	Fleet should implement additional physical security measures, such as installing locking fill pipes on fuels tanks or dedicated security cameras.	
		Fleet has ordered tamper proof lockable fill caps for the Sixth street and East Mesa yards. They will be installed when obtained from the vendor. Access to the keys will be limited. Fleet will also request the fuel sites be considered for future security inhancements.	March 2012

Please enter your response to each recommendation into the white cells below.

	Agree Or Disagree	Brief Summary of Implementation Plan (NOTE: If recommendation will not be implemented, please explain your alternative plan to address the observation.)	Estimated Implementation Date (Month/Yr)
CAP #5: Lack of Controls Over Leased Vehicle Fueling			
Rec #1	Agree	The Police Department should work with Fleet and ITD to develop fuel usage reports; and periodically review these reports to ensure that fuel is only being used for City business.	
		MPD and Fleet personnel met and are in the process of developing a report, which will track fuel usage by personnel assigned to lease vehicles. The report will be reviewed and analyzed by MPD Fleet Management and then forwarded to workgroup supervisors to verify fuel usage by assigned personnel. The report will be generated and analyzed every six months. MPD Fleet Management will act as the custodian of records.	1/2012
Rec #2	Disagree	The Police Department should work with Fleet to assess the feasibility of using separate vehicle codes and applying odometer validations for each leased vehicle.	
		The feasibility of using separate vehicle codes and applying odometer validations for each lease vehicle was analyzed. Although it is possible, it would be impractical given that the associated cost in time to MPD and Fleet staff would outweigh the benefit of implementation. The MPD uses lease vehicles for many reasons, to include the flexibility of exchanging vehicles and assigned drivers. Although a lease vehicle contract is typically a year in duration, the contract allows for frequent exchanges based on mission critical requirements. A lease vehicle maybe exchanged in as little time as a month. As such, it is recommended that the aforementioned report be utilized to track this requirement.	1/2012