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Audit Report

**AUSTIN-BERGSTROM INTERNATIONAL
AIRPORT (ABIA) FUEL AUDIT**

October 25, 2005

**Office of the City Auditor
Austin, Texas**

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NOTE: On November 14th, 2005, this report was revised to clarify ownership of ASIG by BBA, and minor corrections were made in Appendix C.

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City of Austin



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Date: October 25, 2005

To: Mayor and Council

From: Stephen L. Morgan, City Auditor

Subject: ABIA Fuel Audit Report

We are pleased to present this audit report of fuel activities at Austin-Bergstrom International Airport (ABIA). The purpose of this audit was to determine the cause for unaccounted-for fuel at ABIA and to address related concerns. In general, we found that the unaccounted-for fuel is mainly explained by reporting issues. These reporting issues represent some potential revenue due to the Department of Aviation (DOA).

We noted that DOA management has in place some controls aimed at ensuring that the fuel revenue is collected and that the environmental risks related with aircraft fuel are being minimized. DOA management can improve fuel revenue collection and environmental protection by clarifying policy and updating the existing tenant fuel contracts, modifying the fuel tenant reporting requirements, ensuring that there is a clear separation between consortium fuel and GA fuel, and establishing controls over fuel borrowing. In addition, because DOA and the City bear the majority of environmental monitoring risk at ABIA, instituting an environmental inspection scoring system and strengthening analysis and reporting to upper management of inspection results and spill data can provide increased assurance.

We appreciate the assistance and cooperation we received from DOA management and staff and from ABIA tenants in completing this audit, as well as that of the City's Watershed Protection and Development Review Department, the Texas Commission on Environmental Quality, and the U.S. Environmental Protection Agency.

Stephen L. Morgan, CIA, CGAP, CFE, CGFM
City Auditor

ABIA FUEL AUDIT COUNCIL SUMMARY

This audit was approved as part of the Office of the City Auditor (OCA) 2005 Service Plan, based on indications of unaccounted-for fuel at Austin-Bergstrom International Airport (ABIA), leading to concerns of fuel theft or environmental leakage.

We found that Department of Aviation (DOA) management has in place some controls aimed at ensuring that fuel revenue is collected, and it appears that the majority of fuel revenue due is being collected. However, while DOA identified rather sizable fuel discrepancies, they were unable to adequately resolve them. Fortunately, most of the discrepancies we saw during our work were not due to theft or leakage, but were reporting issues. However, the reporting issues represent potential revenue due to DOA, as well as some unnecessary fuel handling and transport across the airport. A rough estimate of the potential revenue due for the 2½-year scope period is \$140,000, but this is a very preliminary estimate and further analysis is needed.

The actual revenue due will need to be determined through additional steps by DOA such as audit or legal opinions or other means, including some additional tenant reporting on past activities. However, we identified some control weaknesses over tenant fuel accounting and reporting, reducing ability to rely on such reporting without independent verification. Therefore, DOA should identify steps needed to obtain assurance on determinations made of past revenue due.

However, without waiting for the results of that inquiry, immediate action is needed to clarify ABIA policies, intentions, and requirements related to fuel handling and reporting at ABIA. We found that contract terms should be re-examined and more precisely defined, communicated, and enforced; additional reporting and supporting documentation should be required; and an active monitoring presence is needed. In addition, other opportunities exist for process improvements to improve fuel accountability overall. Thus, oversight and monitoring can be strengthened to provide greater assurance of fuel accountability, both for revenue protection and for environmental protection purposes.

On the environmental side, DOA staff is actively monitoring environmental issues related to fuel usage at the airport. The DOA environmental program uses a teamwork approach with ABIA tenants and is having positive effects. This helps to alleviate concerns about fuel leakage. However, because the majority of the environmental monitoring risk is borne by DOA and the City, some improvements are recommended to further strengthen the program. We noted a few opportunities to strengthen analysis and reporting related to environmental inspections and spill data, which would help clarify relative levels of tenant compliance with environmental requirements. These improvements would allow identification of overall patterns or issues needing attention, help ensure the consistency and continuity of the program, and provide additional assurance to upper management (DOA and City) throughout the year that fuel is handled properly.



ACTION SUMMARY ABIA FUEL AUDIT

Rec. #	Recommendation Text	Management Concurrence	Proposed Implementation Date
01.	To ensure all past fuel revenue due to DOA on consortium fuel delivered to GA sites is received, the Executive Director of Aviation should obtain and verify information needed to identify and collect revenue due from past consortium fuel issued at the GA site, including possibly the use of audit steps or legal opinion.	Yes	TBD in response within 90 days
02.	To obtain assurance on completeness of FBO GA fuel revenue, the Executive Director of Aviation should clarify, update, and enforce tenants' contracts and reporting requirements to reflect required information. The Executive Director of Aviation at a minimum should modify FBO reporting forms as needed, require FBOs to file supporting documentation for the fuel reports, enforce the current requirement for CPA opinion on FBO internal controls, clarify and document DOA policy regarding fuel fees, and clarify any ambiguous language in the FBO contracts.	Yes	TBD in response within 90 days

Specifically, the requirements and associated tenant communication should address the following:

Rec. #	Recommendation Text	Management Concurrence	Proposed Implementation Date
	<ul style="list-style-type: none"> a. Clarification of whether consortium fuel issued to the GA sites is or is not exempt from the ten-cent fee per gallon, and of how payment of landing fees affects fuel fees. b. Establishing adequate separation between consortium and FBO GA fuel activity and records, with reporting that clarifies the separation. Consortium fuel would include reserves held by FBOs in the consortium, but not FBO GA fuel inventory at the GA site. c. FBO reporting of all Into-Plane activity for consortium fuel, including that issued on the GA site. d. Signoff indicating tenants have reviewed reports for accuracy and completeness. 		
03.	<p>To ensure adequacy of controls over fuel borrowing among tenants, the DOA Executive Director should establish a policy for acceptable use of borrowing/transfer of fuel across the airport. At a minimum, the policy should require the tenants to maintain sound internal controls over handling of borrowed/transferred fuel, including formally documenting their fuel borrowing and transfers.</p>	Yes	TBD in response within 90 days

Rec. #	Recommendation Text	Management Concurrence	Proposed Implementation Date
04.	<p>To strengthen assurance of tenant compliance with contracts and DOA policy, the Executive Director of Aviation should conduct a self-assessment of contract and tenant monitoring controls related to fuel issues, and identify needed improvements. This assessment should involve all of the DOA groups potentially involved in monitoring tenant fuel-related activity and contract compliance and ensure that roles are clarified and documented.</p>	Yes	TBD in response within 90 days
05.	<p>To ensure that all fuel is accounted for and to further strengthen revenue and environmental assurance, the DOA Manager of Administration and Business Development should modify reporting requirements of fuel tenants to include all data elements needed to verify fuel accountability. DOA Tenant Management and Finance groups should update internal DOA procedures to review and analyze said reporting to verify all fuel is accounted for and variances are within acceptable ranges.</p>	Yes	TBD in response within 90 days
06.	<p>In order to provide better information on specific tenant environmental compliance positions, the DOA Environmental Compliance Coordinator should establish an inspection scoring system. At a minimum, tenant scores should be determined and recorded in the DOA environmental compliance program database.</p> <p>This process will facilitate:</p> <ul style="list-style-type: none"> • identification of patterns or deviations in compliance history, • performance measurement, and • management reporting. 	Yes	TBD in response within 90 days

Rec. #	Recommendation Text	Management Concurrence	Proposed Implementation Date
07.	<p>In order to improve results tracking and communication to DOA management, the DOA Environmental Compliance Coordinator should design and implement specific environmental program performance measures and strengthen reporting to DOA management throughout the year. Examples of specific performance measures could include, but are not limited to:</p> <ul style="list-style-type: none"> a. Spill reporting for a specified time period: <ul style="list-style-type: none"> i. Number of spills. ii. Volume of spills. iii. Percent of spills that are “reportable.” iv. Percent of spills that are satisfactorily remediated. b. Percent of satisfactory compliance inspection scores. c. Percent of satisfactory outfall (water quality) reporting results. 	Yes	TBD in response within 90 days
08.	<p>In order to ensure the consistency and continuity of the DOA environmental compliance program, the DOA Environmental Compliance Coordinator should document policies and procedures that define the roles and responsibilities of DOA environmental compliance staff and that succinctly clarify which ABIA tenants are subject to which compliance requirements. These policies and procedures should incorporate, not duplicate, the roles and responsibilities that are defined in other documents, such as the SWP3.</p>	Yes	TBD in response within 90 days

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BACKGROUND

The Austin City Council approved an audit of aircraft fuel at Austin Bergstrom International Airport (ABIA) as part of the Office of the City Auditor's (OCA) CY 2005 Service Plan. There was a concern about unaccounted-for fuel at ABIA, which could indicate a loss of fuel-related revenue and/or leakage into the environment.

There are a variety of entities operating at ABIA that handle fuel.

In general, there are a number of businesses involved in serving fuel to both private and commercial aviation operations at ABIA. The business conducted in each of these areas is intended to be separate as indicated by the layout of the airport (see Exhibit 1 on the next page).

General Aviation (GA) refers to the side of the airport that primarily serves privately operated aircraft. There are two fixed-based operators (FBOs) that serve GA needs at ABIA, Signature Flight Support (Signature) and Trajen Flight Support (Trajen). Other GA operations at ABIA include the Texas Army National Guard and the State Aviation Facility. Each of these facilities has an individual "fuel farm" which is a fuel storage facility. The GA lease agreements state that a ten cent per gallon fuel flowage fee is due to DOA for all fuel delivered to each GA site.

Commercial Aviation refers to the side of the airport that serves commercial passenger airlines such as American, Continental, and Southwest as well as cargo airlines such as FedEx and UPS. The majority of the commercial aviation companies formed a consortium to operate a large fuel farm at ABIA. Consortium members (and non-members) hold an inventory of fuel in the farm that is used to serve aircraft needs. The commercial airline fuel consortium hired a management company, Aircraft Services International Group (ASIG), to manage the fuel farm facility.

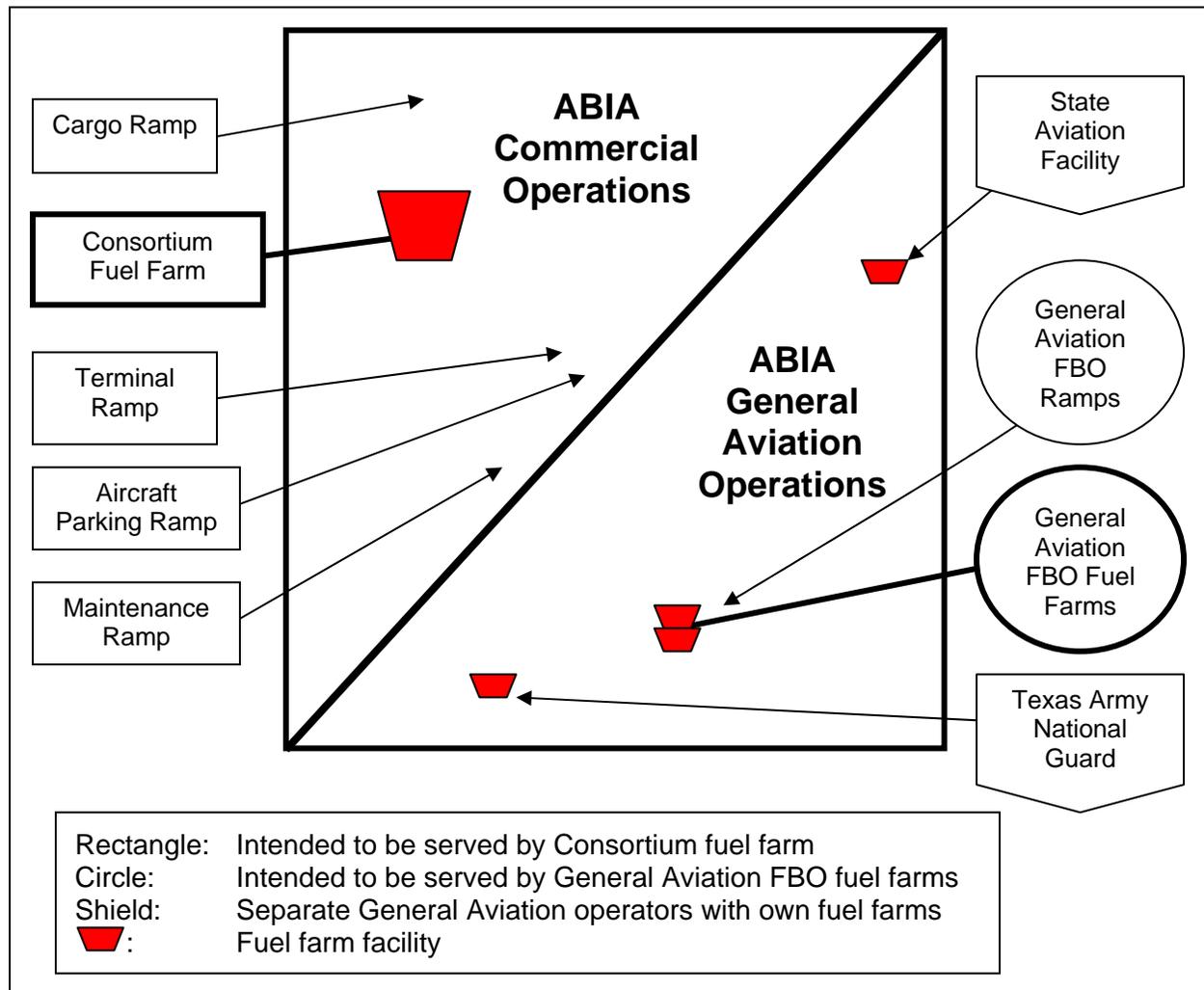
Other operators, some interrelated with other groups, are involved in the aircraft fuel business at ABIA. One group associated with fuel handling is the into-plane operators. These businesses operate on the commercial side to deliver the fuel from the consortium fuel farm to the commercial aircraft. The commercial airlines individually contract for into-plane services with the FBO of their choice. Separate from their GA business, Signature and Trajen each serve as into-plane operators.

Another type of fuel-related business that has developed at ABIA is contract fuel brokerage. These broker companies, or brokers, have established inventories of fuel in the consortium fuel farm on the commercial side. In addition, some fuel brokers hold fuel inventory in the Trajen FBO fuel farm on the GA side, but not in the Signature FBO fuel farm. Upon request, a broker may release fuel from their inventory to airlines that do not keep a fuel inventory at ABIA, such as charters or aircraft diverted to ABIA because of weather. Some of these fuel broker companies include Avfuel, Best, Mariah, Mercury, Phoenix, World Fuel, and PAFCO.

Signature, one of the two FBO companies and into-plane operators at ABIA, is owned by BBA , which also owns ASIG, the company that manages the commercial airline fuel consortium fuel facility at ABIA. In addition, Signature owns PAFCO in a joint venture with World Fuel.

Although the FBO and consortium operations are separate businesses, Signature and ASIG share a computerized Fuel Management System (FMS) that accounts for Signature’s FBO fuel inventory on the GA side as well as the consortium fuel inventories and the into-plane delivery of consortium fuel by both Signature and Trajen on the commercial side.

EXHIBIT 1
Graphic of Fuel Areas at ABIA (not to scale)



SOURCE: OCA analysis of fuel locations at ABIA.

NOTE: The precise depiction of the airport layout and fuel farm locations is not provided because of security reasons.

The Department of Aviation charges a fuel flowage fee for fuel delivered to General Aviation sites.

Revenues from the GA fuel flowage fees accounted for approximately \$550,000 in 2004. According to the GA contract terms, the Department of Aviation (DOA) collects a ten cent per

gallon fuel flowage fee only for fuel delivered to the GA “sites.” This fee is not charged to the commercial airlines – their fuel is classified as “exempt.”

Separate from the fuel flowage fees, the DOA collects fixed lease payments from the GA tenants and from the commercial airline fuel consortium. In addition, the commercial airlines and other businesses that operate aircraft pay various other airport-related fees including landing fees.

The Department of Aviation has an environmental compliance program at ABIA to ensure environmental protection and monitor City and tenant compliance with applicable regulations.

The DOA environmental compliance program monitors and ensures compliance with the City of Austin’s various permits and other regulatory requirements with respect to environmental protection at ABIA. DOA holds a state-issued storm water permit for ABIA. Because the City is the “owner” of ABIA, DOA is also a co-permittee with tenants involved in “industrial activities” at ABIA. Although the ABIA tenant lease agreements contain contractual provisions to protect the City’s cost exposure in the case of tenant fault, DOA has accepted the monitoring and compliance responsibility. In order to minimize the City’s potential liability; ensure regulatory compliance; and mitigate environmental risks, the DOA has established an environmental compliance program at ABIA that:

- has a storm water pollution prevention plan that includes ABIA tenant businesses,
- maintains compliance-related paperwork,
- monitors and inspects DOA and tenant sites at ABIA, and
- documents spills and assures proper remediation.

OBJECTIVES, SCOPE, & METHODOLOGY

Audit Purpose and Objectives: The purpose of this audit was to determine the cause for reports of unaccounted-for fuel at ABIA and address related concerns, specifically to:

- determine whether all fuel-related revenue was being received by the City, and
- determine whether ABIA fuel-related activities are in compliance with environmental regulations.

Scope: The scope of this audit is all ABIA aircraft fuel-related activities including both City of Austin Department of Aviation (DOA) and applicable tenants. Focus is on the larger fuel-handling tenants.

- **Revenue Protection:** FY 2003 – FY 2005 through March (2.5 years).
- **Environmental Compliance:** FY 2004 – FY 2005 through March (1.5 years), generally, although some specific analyses had shorter or longer scopes.

Methodology: Methodologies included:

- Interviewing key DOA personnel and fuel-related tenants at ABIA.
- Analyzing applicable contracts, laws, and regulations.
- Collecting and analyzing safety, compliance, and financial reports and tenant fuel reports.
- Conducting a field inspection and photographing fuel storage sites and controls.
- Obtaining limited information on fuel activities and revenue at other airports.
- Performing trial confirmation of FBO fuel inventory reconciliation for one month to assess tenant controls over fuel reporting.

The audit was conducted in compliance with Generally Accepted Government Auditing Standards.

Limitations on our work and conclusions: We were unable to fully rely on or verify the data reliability of computer-generated reports of consortium fuel deliveries, due to concerns about controls over the system, and unavailability of source records for testing at tenant sites at the time of our fieldwork. Additionally, the identification of data needed from various other DOA sources for independent verification of fueling locations was underway at the time of this report. Our audit recommendations address these issues.

Further, we have issued separate memoranda to management on matters, which in our assessment were not appropriate for inclusion in the audit report, due to the possibility that the information could be misused. Information excluded from the report includes a map showing specifics of fuel locations and detailed information about some control issues.

AUDIT RESULTS

Our greatest concerns are on financial reporting and monitoring, with issues primarily focused on General Aviation. Environmental oversight and compliance appeared effective, with opportunities to improve tracking and reporting on performance.

Unaccounted-for consortium fuel is primarily attributable to reporting issues, although these reporting problems may in turn represent additional revenue due to DOA, as well as a need to clarify policies and strengthen oversight.

Underlying fuel discrepancies that had been identified by DOA, we found fixed-base operator (FBO) reporting errors and DOA misunderstanding on use of the fuel consortium reports. We also noted that some consortium fuel has been issued to aircraft at the GA site, perhaps bypassing an intended fee. Due to limitations of reporting requirements, unmet CPA audit requirements, and weaknesses identified in FBO controls, DOA has only limited assurance on FBO fuel reporting and the related fuel fee revenue. Our conclusion is that additional revenue is due from the FBOs on consortium fuel delivered to the GA site. However, further analysis is needed to determine amounts of revenue due. In addition, DOA needs to re-examine and clarify its policies and intentions regarding fuel in light of the circumstances that have changed since contracts were signed.

DOA management had been monitoring discrepancies in consortium fuel reporting since 2002 or earlier but had not resolved these discrepancies which persisted over time. The FBO fuel flow fee is based on reports by the FBOs to the Department of Aviation (DOA) on the quantity of fuel received at each FBO's GA site. The same FBOs who provide into-plane delivery of (fee-exempt) consortium fuel also sell (fee-bearing) fuel at the GA sites. Because of this, DOA recognized the potential for mis-reporting the two categories of fuel. DOA was obtaining reports from the consortium fuel farm and the FBOs in order to compare consortium reports to FBO reports of consortium fuel delivered, as an indirect way to ensure all FBO fuel fee revenue was being received. The majority of the consortium fuel was accounted for (see Exhibit 2 below).

EXHIBIT 2

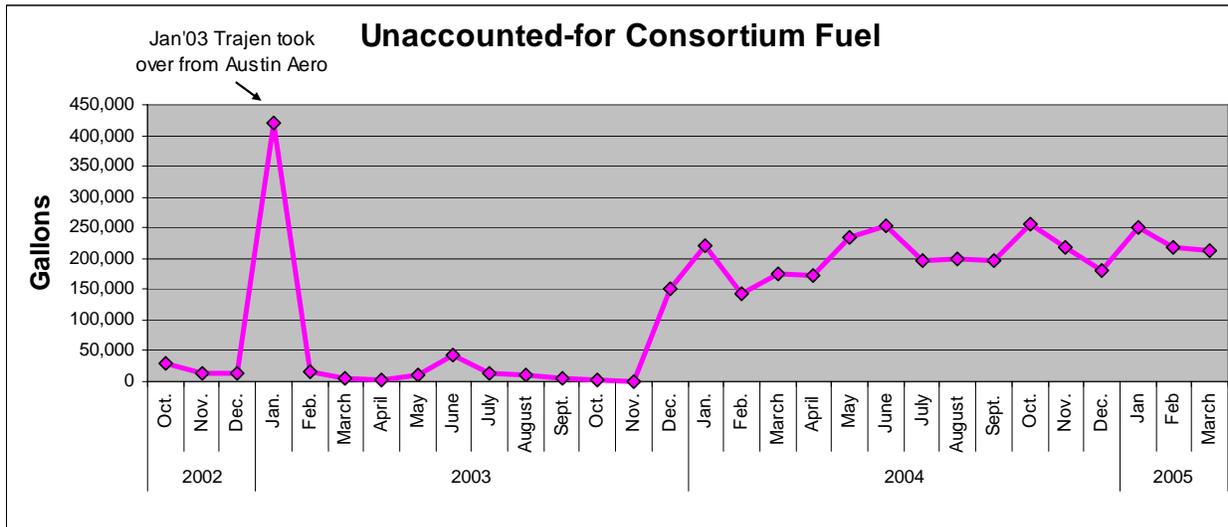
DOA Accounting for Consortium Fuel

- Approximately 97.7% of consortium fuel was accounted for, or approximately 165 million gallons out of 169 million gallons over 2.5 years.
- Approximately 2.3% was not, representing almost 4 million gallons over 2.5 years.
- Discrepancies increased over time.

SOURCE: OCA Analysis of fuel reporting discrepancies identified by DOA, for OCA's audit scope period of FY 2002 to mid-FY 2005.

However, despite the large amounts of fuel potentially at risk, DOA was unable to resolve or clarify the reporting discrepancies. Exhibit 3 trends out the reporting discrepancies over time.

EXHIBIT 3
Consortium Fuel Discrepancies by Month, October 2002 – March 2005



SOURCE: OCA analysis of unaccounted-for fuel monitoring by DOA, for OCA’s audit scope period of FY 2002 to mid-FY 2005.

Reporting issues drove the discrepancies. Reporting issues we identified with consortium fuel included: Signature’s FBO GA fuel inventory being included in the consortium fuel report; Signature not reporting the fueling of charter flights; errors in FBO reports of consortium fuel deliveries that were not caught in tenant review; different names used by tenants for the same carriers (resulting in reporting differences that net out, once isolated); unaccounted-for fuel charged to FBOs by ASIG, and accounting month differences.

By far, the majority of the discrepancies for the period we examined were explained by Signature’s GA inventory and unreported consortium fuel to charters, along with data errors. The accounting month difference was reported to us by Signature, but we did not observe any effect of the accounting month difference in our analysis. The approximate percentage of the total 1st Quarter 2005 discrepancies for each cause were as follows:

- Signature’s GA fuel included in ASIG’s consortium fuel report 80%
- Unreported consortium fuel delivered to charters almost 16%
- Data entry errors 4 %
- Other <1%

We also found that charter fuelings using consortium fuel have been reported as exempt in earlier time periods, and then were not reported at all in more recent time periods.

In the absence of required CPA opinions on the adequacy of FBO internal controls, combined with incomplete reporting and analysis, DOA cannot assure the completeness of the FBO fuel flowage fee revenue. FBO GA fuel activity (upon which the fee is calculated) is self-reported by the FBOs, using DOA-provided report forms that include FBO GA fuel activity as well as FBO into-plane consortium fuel activity. However, DOA has not required supporting documents from the FBOs for these reports. Also, DOA’s present FBO report template, a modified carry-over from the old airport, does not specify how consortium fuel issued to the GA

sites should be reported. As a result, without DOA's knowledge, Signature has consistently not reported or classified fuel from the consortium fuel farm, delivered to charters on Signature GA site, as GA fuel.

In addition, FBOs are required by contract to submit to DOA annual audits by Certified Public Accountants (CPAs). The CPA audits are required to provide an audited annual accounting statement of gross sales and rent due, including food sales and fuel flowage fee. The CPA audits are also required to express an opinion on whether the FBOs' annual accounting statements of gross sales and rent due have been accurately calculated and reported according to terms of the contract, and on whether an adequate system of internal control is in place to provide assurance that gross sales and rent due have been collected, calculated, and paid according to the contract terms.

In examining the CPA audits submitted to DOA by Signature and Trajen for 2002-2004, we found that the CPA audits provided the required opinion on the statements of gross sales and rent due, but they did not express an opinion on the adequacy of internal controls over fuel accounting. Instead, the CPA auditors explicitly acknowledged that they did not perform the testing necessary to express an opinion on the effectiveness of the internal controls over financial reporting. OCA did verify against source records the accuracy of FBO GA fuel that was reported to DOA for 1st quarter of 2005, but not the completeness of said reporting. However, based on OCA's trial confirmation of FBO fuel inventory reconciliation for one month, control issues identified preclude OCA from giving assurance that reporting is complete.

More importantly, we found that DOA had not collected fuel flowage revenue for consortium fuel delivered to charters on the GA site that were unreported by the FBO.

Some charter flights are fueled on the GA site, which according to the FBO contract terms, means some portion of the unreported consortium broker fuel issued to charters may have bypassed a fee to DOA of ten cents per gallon. Of note, Trajen delivers broker fuel to aircraft on its GA site, but from Trajen's GA tanks, not from the consortium tanks. Trajen pays DOA the ten cent fee on this broker fuel. (See Appendix B.)

In all, we identified consortium fuel issued to charters during our scope period (FY03 – FY05 YTD) of approximately 2.05 million gallons, reported as exempt in earlier reporting periods, and not reported at all in later reporting periods. The additional revenue due to DOA on this fuel is not yet known. The determination of revenue due on these gallons will depend on which charter fuelings with consortium fuel occurred on the GA sites. DOA has reports of terminal usage that allow determination of which carriers were served at the terminal instead of the GA site. This information would need to be used in conjunction with tenant reports of the specific charter carriers served consortium fuel from brokers. The specific carrier information could be requested of and reported to DOA by the tenants, based on data in the tenant's fuel management system (FMS).

However, because of control issues identified with that system, additional independent verification or audit by DOA is recommended. Furthermore, the specific carriers served by some consortium fuel brokers (e.g., PAFCO) are not always recorded in the FMS system, so original

source documents (fuel truck sheets or fuel tickets) would need to be examined to identify and confirm the reliability of relevant FMS data.

The amount of revenue due will depend in part on interpretation of contract terms. DOA management is considering other contracts besides the FBO contracts and fuel consortium contract, in interpreting the applicability of fuel fees. These contracts include: Signatory Commercial Airline Airport Use and Lease Agreements, Cargo Operator Airport Use and Lease Agreements, and Charter Operator Airport Use and Lease Agreements. (Signatory commercial airlines are those airlines that have signed an airport use agreement and participate in annual rates and charges development.) These contracts contain language that pertains to fuel flow fees and landing fees. DOA management's intention is that any aircraft that pays a landing fee be exempt from fuel flowage fee, which has some basis in industry norms. However, the current contract language doesn't fully clarify that intention, and policy has not yet been documented that clarifies DOA's intention regarding the relationship between fuel flow fees and landing fees, which crosses the various contracts. DOA management is in the process of clarifying this policy in response to this audit.

Also, some language in the FBO contracts may have been subject to different interpretations. Specifically, the FBO Lease and Operating Contracts state that "The fuel flowage fee will be ten cents (\$.10) per gallon for fuel delivered to the site." Contrary to the intended meaning of "site" by the DOA to mean all of the physical FBO GA site, the tenants have only been reporting fuel delivered into the tanks on the GA site. They haven't been reporting for fee the consortium fuel delivered directly to aircraft on the GA site or to trucks on the GA site.

Analysis of available data provides a rough estimate of potential revenue due of up to \$140,000, which would need to be confirmed by additional analysis. Based on our initial analysis and literal interpretation of current contract language, for February and March of 2005 combined, approximately

- 58% of the fuel was most likely issued at the GA site.
- 22 % of the fuel was most likely issued at the terminal
- 20% of the fuel was not clear as to location, in available records.

If we assume for estimating purposes that half of the fueling of undetermined location occurred at the GA site, the total estimated percentage of fueling that may have occurred at the GA site was 68% (58% plus half of 20%).

If these patterns hold true for the remainder of the scope period, excluding the month of August 2003, for which DOA did not provide data, with total consortium fuel to charters identified at approximately 2.05 million gallons, then approximately 68% of the 2.05 million gallons, or 1.4 million gallons should potentially bear a fee. At ten cents per gallon, this equates to \$140,000 of additional revenue. This is OCA's preliminary estimate for the scope period of the audit, based on available information at the time of the audit report. Also, according to FBO contract terms, if the determination of revenue due is made by audit, depending on the outcome of the audit, the tenant may be responsible for paying for the cost of the audit. Additionally, penalties and fees of 1.5% per month may be due on unreported/uncollected past revenue. Further analysis is needed by DOA, along with clarification of fuel terms at ABIA.

While nothing came to our attention indicating theft of fuel during the course of our work, we did not do enough work to rule out any possibility of theft or other fuel misappropriation at FBOs in amounts that could have fallen within accepted FBO fuel variance tolerance ranges or that could have been undetected through weaknesses in system controls.

Fuel borrowing occurring between the FBO consortium fuel reserves and FBO GA fuel is informal, done outside the fuel management system, does not always balance, and is not guided by policies and procedures. The fuel consortium and FBOs maintain separate inventories and truck fleets to serve the commercial and GA sites, respectively. The FBOs borrow trucks from one side to the other and vice versa for a variety of reasons, transferring consortium fuel and FBO GA fuel from commercial trucks to GA trucks in the process. Although discouraged by ASIG, this borrowing is done with ASIG's consent and is mainly done by Signature. OCA did not identify any borrowing by Trajen during the period of January 2005 to March 2005, but Trajen staff indicated such borrowing had occurred in the past. In addition, neither the FBOs (Signature or Trajen) nor DOA have documented policies in place to govern fuel borrowing between consortium and FBO GA fuel inventories, or the associated extra fuel handling that results from such borrowing.

The FBOs' stated reasons for borrowing and transporting fuel include:

- unexpected fuel truck break downs, coupled with the need to ensure timely delivery of fuel into the planes on the commercial side to keep the airlines on schedule. In this case GA trucks are used to replace the broken trucks normally used to deliver consortium fuel, and are then refilled by other commercial trucks with a truck-to-truck transfer or by refilling the GA trucks from the consortium fuel farm;
- being out of fuel at the GA site and needing to borrow fuel from the consortium farm to meet customer needs at the GA site; and
- a need to fill consortium fuel orders on the GA site (by Signature). In this case, GA trucks are first used to fuel the aircraft, and trucks with consortium fuel are then used to refill the GA trucks with a truck-to-truck transfer, resulting in an additional fuel handling step for this particular fuel category.

Signature's stated reason for not formally documenting the borrowed fuel is that the fuel consortium member airlines require ASIG to provide them with daily balanced reports of their respective fuel in the fuel farm. Signature contends that borrowing/transfer of fuel, if recorded in the FMS, would cause the daily airline reports to be out of balance. This is because the "repayment" of the borrowed fuel may not always be accomplished by close of business on the day the fuel is borrowed. However, we found that the FMS had fields for transfers that could be used to document transfer activity, but these fields were not being used.

While there may be some legitimate business need to borrow fuel between the consortium and FBO GA trucks from time to time, better controls are needed to guide this activity.

DOA tenant oversight and contract monitoring should be strengthened to provide sufficient assurance that tenant activities comply with airport policy, contract requirements, and revenue terms related to fuel. Oversight and contract monitoring are the primary ways through which the DOA can ensure that tenants comply with airport policies and

contract requirements and terms. Without proper tenant oversight and contract monitoring, the internal and external control environments are weakened.

The present DOA oversight and contract monitoring does not provide sufficient assurance that tenants activities comply with ABIA airport policies and contractual requirements related to fuel. Prior to this audit, DOA was unaware both that additional revenue was due to DOA on consortium fuel delivered to the General Aviation FBO site, and that activities had evolved that were different from what was originally intended in the contracts. As a result, DOA management may not be aware of all of its risks related to fuel.

Furthermore, although DOA is monitoring some aspects of fuel accountability, not all of the data elements needed to fully verify fuel accountability are being collected and analyzed. Fuel-related tenants are collecting and reporting internally all of the data elements needed to fully account for fuel for their own purposes, and have established acceptable levels of fuel variances. However, DOA is lacking some of the needed information and has not established acceptable ranges of fuel variance. We also found that some of the data elements that were being reported to DOA by tenants contained errors (start and end balances on FBO GA fuel inventories). Improving reporting, review, and analysis in this area could strengthen assurance overall. See Appendix C for additional details on fuel accountability data elements being reported to and used by DOA, along with discussion of expected fuel variances.

As noted earlier, DOA had been monitoring the discrepancies in consortium fuel but had not resolved these discrepancies. DOA was on the right track in comparing the ASIG reports and FBO reports of consortium fuel activity to identify discrepancies. However, DOA staff did not fully understand the consortium fuel reporting elements being reported by ASIG and did not contact the tenants directly to find out why the ASIG and FBO reports of consortium fuel deliveries didn't reconcile. As a result, any misreporting by tenants or practices not in conformance to DOA expectations were not identified or addressed.

There was some DOA internal communication about the issue. However, OCA observed that there was some breakdown in the communication and thus sufficient contact and follow up with tenants did not occur. Such contact could have clarified the situation for DOA much earlier. OCA also observed that there was a lack of clarity or roles between DOA's Tenant Management group and Finance group in following up on tenant issues. We did not examine other potential causes for monitoring break-down such as staffing, skills, or training issues.

DOA's stated several reasons for not actively pursuing resolution on consortium fuel discrepancies. These included:

- an expectation that some amount of variance is normal in fuel measurement;
- a belief that there was no DOA revenue involved in consortium fuel; and
- an assumption that if the fuel were leaking into the environment, the environmental program would catch it.

Another cause for DOA's lack of understanding about fuel activities is that DOA generally maintains an arm's length relationship with the tenants, except to verify that specific

requirements are met. However, a number of significant changes have occurred since fuel contracts were established at ABIA, of which DOA was unaware before this audit:

- Signature's parent company BBA acquired ASIG,
- Signature and ASIG began using a combined fuel management system, and
- Fuel brokers began participating in consortium and FBO fuel business.

We also identified some specific weaknesses in FBO fuel accounting and other concerns that may signal additional control issues. We have communicated these issues to DOA management via a separate memo. Our contacts with other airports and with the Air Transport Association (ATA) corroborate our concerns about control weaknesses identified. We think that the complexities of fuel activities as they have evolved at ABIA, along with unanswered concerns, merit greater oversight and monitoring attention by DOA.

Recommendations:

01. To ensure all past fuel revenue due to DOA on consortium fuel delivered to GA sites is received, the Executive Director of Aviation should obtain and verify information needed to identify and collect revenue due from past consortium fuel issued at the GA site, including possibly the use of audit steps or legal opinion.

MANAGEMENT RESPONSE: CONCUR

02. To obtain assurance on completeness of FBO GA fuel revenue, the Executive Director of Aviation should clarify, update, and enforce tenants' contracts and reporting requirements to reflect required information. The Executive Director of Aviation at a minimum should modify FBO reporting forms as needed, require FBOs to file supporting documentation for the fuel reports, enforce the current requirement for CPA opinion on FBO internal controls, clarify and document DOA policy regarding fuel fees, and clarify any ambiguous language in the FBO contracts.

Specifically, the requirements and associated tenant communication should address the following:

- a. Clarification of whether consortium fuel issued to the GA sites is or is not exempt from the ten-cent fee per gallon, and of how payment of landing fees affects fuel fees.
- b. Establishing adequate separation between consortium and FBO GA fuel activity and records, with reporting that clarifies the separation. Consortium fuel would include reserves held by FBOs in the consortium, but not FBO GA fuel inventory at the GA site.
- c. FBO reporting of all Into-Plane activity for consortium fuel, including that issued on the GA site.
- d. Signoff indicating tenants have reviewed reports for accuracy and completeness.

MANAGEMENT RESPONSE: CONCUR

03. To ensure adequacy of controls over fuel borrowing among tenants, the DOA Executive Director should establish a policy for acceptable use of borrowing/transfer of fuel across the airport. At a minimum, the policy should require the tenants to maintain sound internal controls over handling of borrowed/transferred fuel, including formally documenting their fuel borrowing and transfers.

MANAGEMENT RESPONSE: CONCUR

04. To strengthen assurance of tenant compliance with contracts and DOA policy, the Executive Director of Aviation should conduct a self-assessment of contract and tenant monitoring controls related to fuel issues, and identify needed improvements. This assessment should involve all of the DOA groups potentially involved in monitoring tenant fuel-related activity and contract compliance and ensure that roles are clarified and documented.

MANAGEMENT RESPONSE: CONCUR

05. To ensure that all fuel is accounted for and to further strengthen revenue and environmental assurance, the DOA Manager of Administration and Business Development should modify reporting requirements of fuel tenants to include all data elements needed to verify fuel accountability. DOA Tenant Management and Finance groups should update internal DOA procedures to review and analyze said reporting to verify all fuel is accounted for and variances are within acceptable ranges.

MANAGEMENT RESPONSE: CONCUR

The Department of Aviation’s environmental program is providing assurance that environmental regulations are met, but controls over internal reporting and coordination can be improved.

Because the City of Austin must manage its responsibility for environmental stewardship and assure protection from potential liability, the Department of Aviation (DOA) has an active environmental monitoring, inspection, and compliance program. While there are multiple layers of environmental regulation and enforcement over ABIA, the DOA and the City are the only entities actively performing environmental monitoring and enforcement inspections. The program has met and exceeded regulatory requirements and shown a marked reduction in spills reported at ABIA. In addition, mechanisms are in place to protect the City from liability should environmental contamination occur due to tenant activities. While the regulatory requirements are being met, the DOA’s environmental program could improve its process of tracking and reporting performance results.

Several layers of regulatory oversight exist at ABIA, but the City of Austin is the only entity actively performing environmental monitoring. For ABIA, there are two key agencies involved in environmental permitting and enforcement, the United States Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ). In 2001, EPA delegated storm water permitting and enforcement responsibility to TCEQ. TCEQ, pursuant to the federal Clean Water Act and the Texas Water Code, issues storm water permits to industrial facilities such as ABIA under the Texas Pollutant Discharge Elimination System (TPDES). In the permit, the state/federal regulatory oversight function is passive. The permittee is required to create and maintain compliance records. While EPA and TCEQ could inspect permittees, active monitoring at ABIA is done by the DOA. In addition to the TPDES permit requirements, the DOA is subject to a separate federal regulation as well as City storm water requirements that are monitored by the Watershed Protection and Development Review (WPDR) department.

The Department of Aviation and the City are responsible for compliance and monitoring duties related to a variety of regulatory requirements at ABIA. DOA holds a TPDES storm water general permit issued from TCEQ. Because the City owns ABIA, the DOA is listed as a co-permittee on applicable tenant TPDES permits. This creates potential liability and oversight responsibility for the City. DOA must assure that both its own staff and applicable ABIA tenants comply with the TPDES permit requirements.

From a contractual perspective, the DOA has limited the City’s exposure to environmental costs caused by tenant-related contamination. DOA and tenant lease agreements reviewed include provisions that require each tenant to comply with the environmental policies and regulations at ABIA. In addition, these provisions require that the tenant must pay to remediate costs associated with environmental damage caused by the tenant.

From a monitoring perspective, the DOA environmental compliance program addresses permit compliance requirements. Elements of this program include:

- Having and maintaining a Storm Water Pollution Prevention Plan (SWP3): The SWP3 acts as a best practices manual and is shared with co-permittees. The SWP3 requirements include:

- good housekeeping measures,
- spill prevention and response measures,
- best management practices (BMPs),
- training, and
- conducting a comprehensive site compliance evaluation.
- Conducting scheduled inspections: The DOA tracks quarterly tenant self-reporting and conducts annual inspections of both DOA and tenant facilities at ABIA.
- Reporting spills: Spills that exceed a defined “Reportable Quantity” (RQ) level are required to be reported to the appropriate regulatory entity. City RQ levels are more stringent than State RQ levels. The DOA tracks and reports spills as required.
- Monitoring effluent: The DOA performs water quality testing at selected site outfalls at least once per year and maintains the results in a file as required.
- Completing an Annual Comprehensive Site Compliance Evaluation: DOA environmental program staff prepares a yearly certification report signed by the DOA Director. This report is maintained in a file as required.

On the local level, the City’s WPDR department issues City storm water permits to industrial facilities pursuant to the Austin City Code. These permits require good housekeeping measures and site inspections. WPDR does inspect both DOA and tenant facilities at ABIA.

Finally, the DOA must comply with the requirements of a separate federal regulation that applies to facilities that store oil, the EPA Oil Pollution Prevention regulation. This regulation applies separately to each applicable tenant at ABIA. The DOA is only responsible for monitoring DOA compliance, not tenant compliance. The DOA is meeting these requirements by having and maintaining a Spill Prevention, Control, and Countermeasures (SPCC) plan and conducting quarterly inspections.

The Department of Aviation environmental compliance program exceeds regulatory requirements. In addition to meeting the minimum regulatory requirements, the DOA environmental compliance program exceeds monitoring requirements in several areas including:

- inspecting TPDES-exempt tenant facilities that could have an impact on storm water quality (because some tenants are exempt from TPDES but still subject to WPDR permit requirements),
- documenting all reported spills including those under prescribed RQ levels, and
- conducting additional water quality testing related to de-icing fluids.

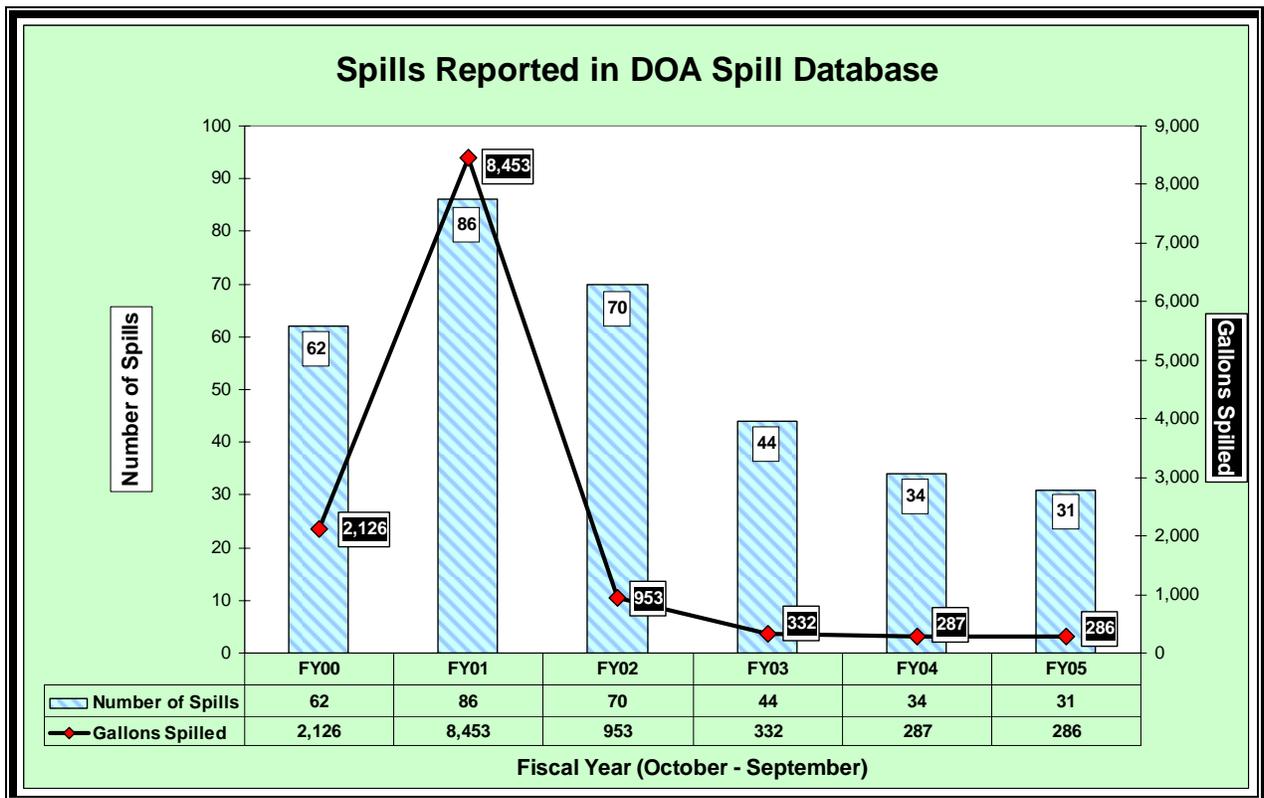
The DOA environmental compliance program employs a teamwork approach with other DOA programs, City programs, and ABIA tenants. In order to accomplish compliance and ensure enforcement of regulatory requirements, the DOA environmental compliance program has an “open door” policy and works with a variety of groups including:

- The DOA Operations group: DOA Operations acts as the environmental compliance “eyes and ears” at ABIA. Since the Operations group has a 24-hour, 7-day per week presence at ABIA, staff has been trained to monitor the site and report any spills or other impacts to the environment.
- WPDR: The WPDR inspectors and DOA have an established process regarding spill reporting and remediation efforts. The DOA environmental compliance program staff also partners with WPDR staff to conduct joint tenant inspections at ABIA.
- AWU and WPDR: These City departments and DOA established a formal agreement to conduct additional water quality testing at ABIA to ensure that de-icing fluids do not impact the South Austin Regional Wastewater Treatment Plant.

- Tenants: The DOA environmental compliance program works to assist tenants with compliance and spill response issues.

The Department of Aviation environmental compliance program has produced positive outcomes. Measures of environmental compliance indicated positive results. For example, the TPDES-required water quality testing results were under or within acceptable ranges. Likewise, the additional City water quality testing results were under or within acceptable ranges. In addition, the number of reported spills and the volume of those spills have decreased over time (see Exhibit 4).

**EXHIBIT 4
Reported Fuel Spills at ABIA are Decreasing**



SOURCE: OCA analysis of spill records contained in the DOA Environmental Program database.

NOTE: The data analyzed represents the best available information and controls over the data were discussed with staff. The spill amount data for the period 10/2003 to 06/2005 was matched to source field notes. We had a limited ability to verify the completeness of the source field notes.

Three environmental issues were identified during the course of our audit that management has taken steps to address. The first issue is related to the fuel borrowing practice mentioned earlier in this report. The Signature FBO is performing truck-to-truck fuel transfers in apparent violation of the Austin Fire Code. Late in the audit process, DOA staff verified that this practice was occurring. While DOA staff is engaging Signature regarding a resolution, additional follow up by DOA is needed to verify that this issue is resolved.

The second issue involved a leak at the Texas Army National Guard fuel facility which was observed during our field inspection. A small amount of aircraft fuel was dripping from a hose elbow onto concrete. The DOA Environmental Compliance Coordinator was aware of the leak and checked to make sure that the National Guard was implementing best management practices to contain the fuel. The National Guard subsequently reported to DOA that the leak was fixed. The DOA Environmental Compliance Coordinator visited the site and verified that the leak was fixed.

The third issue involved a Federal Aviation Administration (FAA) underground fuel storage tank that holds diesel fuel for a generator. In response to a query from the audit team, the DOA Environmental Compliance Coordinator checked with the appropriate state agency, TCEQ, and learned that the tank was not registered. DOA staff notified an FAA official who later reported that there had been a miscommunication when a contractor did not register the tank after installation. The FAA official notified DOA staff that the tank would be registered. Additional follow up by DOA may be needed to verify that this issue is resolved.

The Department of Aviation can improve environmental monitoring controls and facilitate more effective management reporting. The DOA environmental compliance staff currently maintains a database of the inspection results and spill reporting data. However, this management information is not currently optimized and could be made more useful. In order to enhance the utility of management information and strengthen program accountability, the DOA environmental compliance program should implement improvements to existing controls. These improvements include establishing an inspection scoring system, developing additional performance measures and reporting outcomes and results to DOA management, and documenting policies and procedures that define program roles and responsibilities to ensure consistency and continuity. Specific comments pertaining to each of these areas follows:

- *Inspection Scoring System.* Current tenant inspections are conducted using a standardized checklist form. Inspection items are noted as “yes/no” on the form and comments are added if necessary. The comments are captured in the DOA environmental compliance program database system which is used to produce reports that provide tenant feedback. Based on a review of tenant compliance histories, some tenants always received compliance comments while others did not. This indicated that some tenants were not improving their compliance position. However, reviewing the tenant compliance positions was not a simple task. It became clear that there were varying levels of compliance that the current system did not clearly capture.

An inspection scoring system could provide more accurate and clearer information about tenant compliance at ABIA. An example of a simple scoring system would be to rank individual inspection items numerically based on the level of compliance. The numbers could be added together to determine an overall inspection score. A more accurate system may follow the simple system and add a weighting factor. For example, inspection items related to paperwork requirements may be considered less critical than fuel storage and handling inspection items. Less critical inspection items could be assigned a lower weight than more critical items. The scores could be weighted then added to determine a final inspection score. Whatever the specifics of the system, the final scores could be captured in the currently-existing database.

- *Performance Measures and Management Reporting.* Besides the water quality testing results, there are no specific environmental performance measures reported to DOA management. While

these measures may not need to be reported externally as part of the budget process, internal performance measures may be useful to management in order to assess the effectiveness of the program and identify issues. This process should not be a burden because the DOA environmental compliance program already collects data that could be used to produce specific performance measures. For example, information on spill reporting is captured in the DOA environmental compliance program database system. OCA compiled and used this data to develop the graph in Exhibit 4. In addition, if the inspection scoring system is implemented, that data would be available as well.

Additionally, while DOA management does sign an annual Comprehensive Site Compliance Evaluation report, a summary of yearly operations, management does not receive monthly or quarterly reporting. As a result, DOA management may not be aware of risks or issues that could develop during the year. More specific and frequent reporting could strengthen upper-level management monitoring.

- *Consistency and Continuity.* Although the DOA environmental compliance program’s records are well-organized and the documented TPDES permit requirements provide the basis for the program, documented policies and procedures that define the roles and responsibilities within the program do not exist. Because the program is staffed by two full time equivalent staff members, staff changes combined with the lack of documented policies and procedures could impair the consistency and continuity of the program.

Recommendations:

07. In order to provide better information on specific tenant environmental compliance positions, the DOA Environmental Compliance Coordinator should establish an inspection scoring system. At a minimum, tenant scores should be determined and recorded in the DOA environmental compliance program database. This process will facilitate:
- identification of patterns or deviations in compliance history,
 - performance measurement, and
 - management reporting.

MANAGEMENT RESPONSE: CONCUR

08. In order to improve results tracking and communication to DOA management, the DOA Environmental Compliance Coordinator should design and implement specific environmental program performance measures and report them to DOA management throughout the year. Examples of specific performance measures could include, but are not limited to:
- a. Spill reporting for a specified time period:
 - i. Number of spills.
 - ii. Volume of spills.
 - iii. Percent of spills that are “reportable.”
 - iv. Percent of spills that are satisfactorily remediated.
 - b. Percent of satisfactory compliance inspection scores.
 - c. Percent of satisfactory outfall (water quality) reporting results.

MANAGEMENT RESPONSE: CONCUR

09. In order to ensure the consistency and continuity of the DOA environmental compliance program, the DOA Environmental Compliance Officer should document policies and procedures that define the roles and responsibilities of DOA environmental compliance staff and clarify in a succinct document which ABIA tenants are subject to which compliance requirements. These policies and procedures should incorporate, not duplicate, the roles and responsibilities that are defined in other documents, such as the SWP3.

MANAGEMENT RESPONSE: CONCUR

We identified issues for further study by DOA Management or potentially by OCA audit.

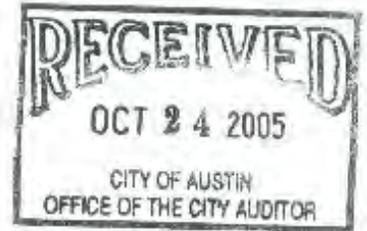
During our work, we identified some issues that were related to, but slightly outside the scope of, our audit. These included:

1. **Unaccounted-for fuel outside of this audit scope.** Note that an additional 4.9 million gallons of fuel were unaccounted for in 2002, from January to September 2002, which was before OCA's audit scope period. Additional unaccounted-for fuel has also been identified in 2005 since OCA's audit scope period. These additional amounts of unaccounted-for fuel should be evaluated by DOA management in the context of the findings of this audit.
2. **Fees and terms of airport use.** We found the need for further clarity and communication regarding fees and terms of airport use, to dispel misconceptions that may exist due to past miscommunication or undocumented policy regarding specific fees. Our work also raised questions as to fee structure analysis and cost recovery assumptions, indirectly impacting this audit but technically outside the scope of this audit. Further attention to GA fee structures, comparison to other airports, business analysis and review of cost-recovery assumptions underlying fee structures may be warranted.
3. **Future environmental requirements with Austin reaching non-attainment of air quality standards.** The DOA Environmental Compliance Coordinator indicated that there will be a new layer of regulations and requirements to address when/if the City is in non-attainment of air quality standards. These separate, but additional compliance requirements would be added to the DOA environmental compliance group's responsibilities.
4. **Possible TCEQ storm water permit changes in 2006.** When the City's current TCEQ storm water general permit expires in August 2006, there are indications that the permitting process will be different. Currently, the City, as the ABIA facility owner, must sign a tenant's permit. TCEQ is currently exploring changes to this process. Under one option, the facility owner would not be required to sign the tenant's permit. This change would lessen the City's exposure to liability caused by a tenant's actions. However, the DOA Environmental Compliance Coordinator indicated that the compliance assurance function provided by DOA would continue.

Appendix A
Management Response



MEMORANDUM



To: Audit and Finance Committee
From: John Stephens, Chief Financial Officer
Date: October 24, 2005
Subject: Fuel Audit - ABIA

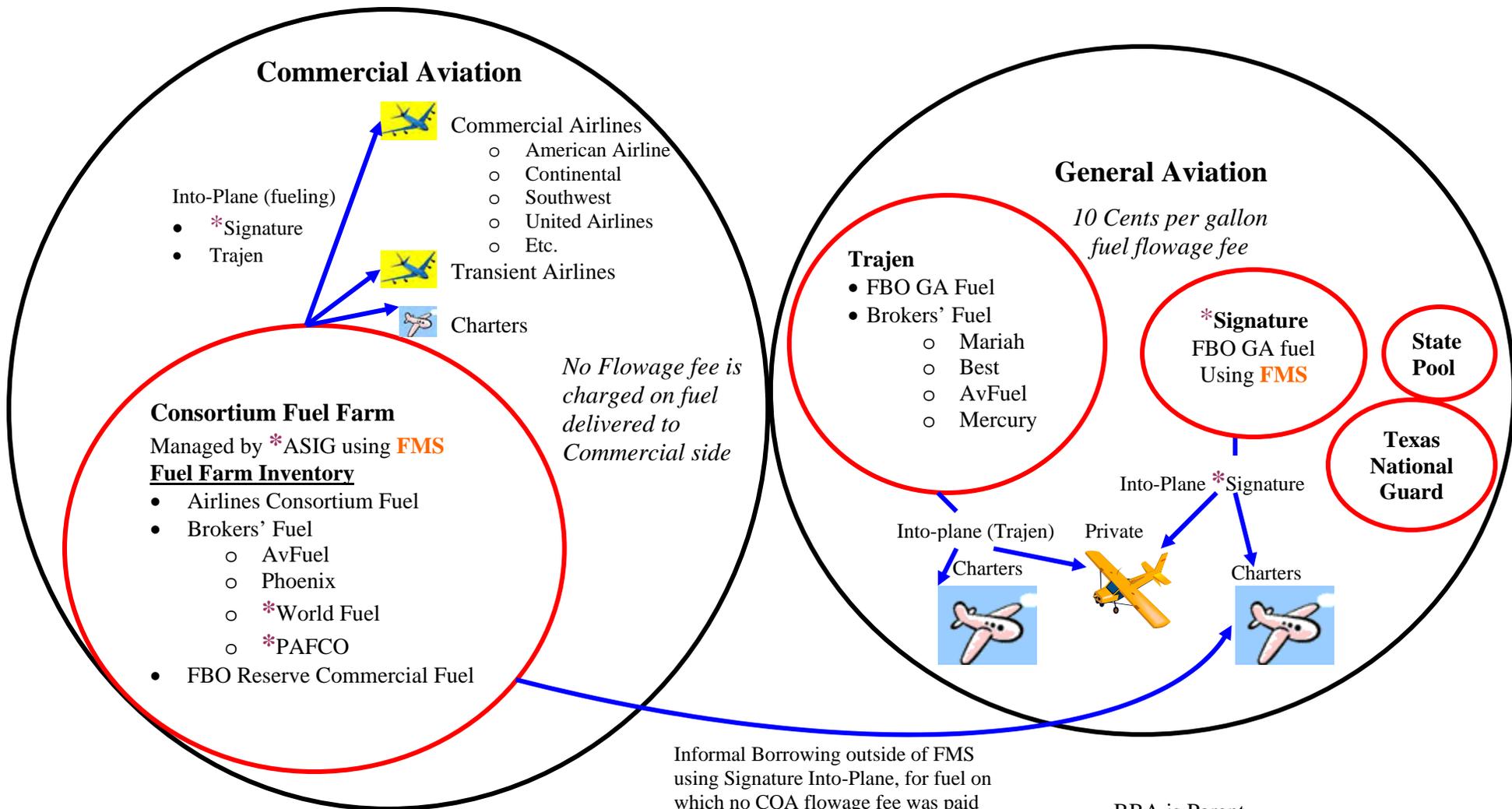
The Department of Aviation and I agree with the recommendations that the Office of the City Auditor has made in its fuel audit at the Austin-Bergstrom International Airport.

We will submit an action summary and an action plan for implementation of the recommendations within 90 days.

John Stephens
Chief Financial Officer

xc: City Manager

APPENDIX B
FUEL AREAS, ACTIVITIES AND PARTIES AT ABIA



○ Fuel Farms

BBA is Parent Company of

*ASIG *Signature,

which is Parent Company of PAFCO (in joint venture with *World Fuel)

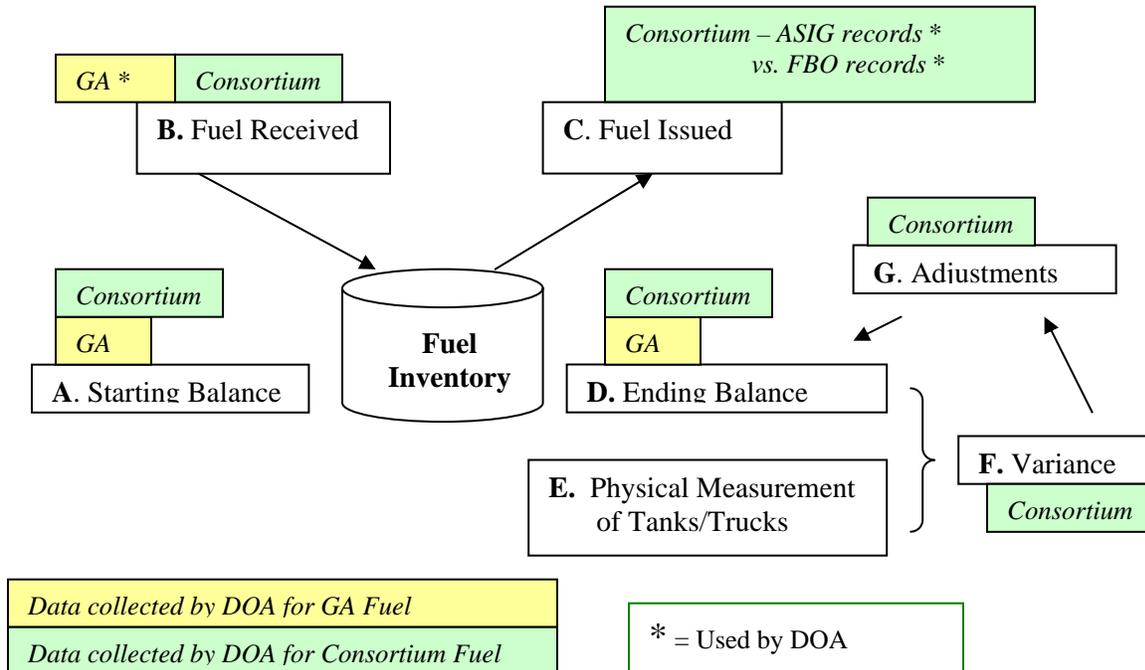
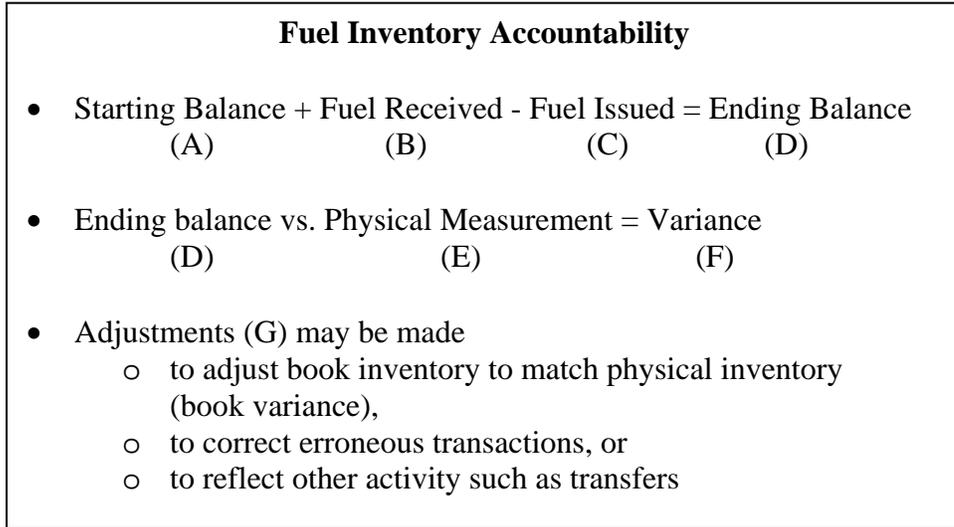
APPENDIX C
FUEL ACCOUNTABILITY DATA ELEMENTS

FUEL ACCOUNTABILITY DATA ELEMENTS

Fuel Inventories exist for multiple tenant operators:

Fuel Inventory includes both tanks and trucks.

Individual tenant operators are maintaining data needed to ensure fuel accountability, including:



Tenants have established acceptable levels of fuel variances, which is necessary because of thermal expansion of fuel, along with human measurement error. Due to thermal expansion and contraction of fuel as temperature changes, some amount of variance is expected in measuring fuel. The fuel industry has established two different types of fuel measurement, gross and net. The gross fuel measurement is the measured volume of fuel at the current temperature. The net fuel measurement is the fuel volume converted to 60 degrees Fahrenheit. The fuel farms at ABIA operate on a “gross system,” meaning that there will be expected variances in comparing book inventory to physical inventory.

Also, some variation is expected because of the method of physically measuring fuel inventory levels, relying on physical readings of tank gauges, and converting these readings from feet and inches to gallons. Because of these expected variances, acceptable ranges of fuel variance are established by fuel tenants to compare against actual variances observed in monitoring fuel inventory. These ranges were discussed by tenants, although we did not identify any documentation by tenants of these ranges, except by ASIG.

Acceptable Variance Levels (Thresholds) for Jet Fuel
Established by ASIG, Signature, and Trajen

ASIG:

- The standard for gain/loss for the month is **¼ percent (.25%) or less.**
- For daily meter closeout, they are allowed **one tenth percent variance (.1%) or less.**

Trajen:

- **Less than 1 or 2 percent for the whole month.** If the monthly variance is greater than that, or if the variance is greater than **1000 gallons**, they have to research it internally.

Signature:

- Usually ties within **less than 3000 gallons for the month.**
- The goal for the daily balance is **within a one to three thousand gallons.**
- Normally **about 1000 gallons/month** is good.

DOA has not established acceptable ranges for fuel variances in its monitoring of tenants. What DOA has been monitoring is the comparison of ASIG reports of consortium fuel issued, to FBO reports of consortium fuel issued (item C in graphic). The fuel thermal expansion factor would have no bearing on any variances observed, because the reconciliation is only between two separate records of the same transactions. The only variance expected would be due to mis-reporting or human error in reporting. Still, some acceptable range of tolerance could be established for this specific reconciliation being done by DOA, to trigger additional examination for variances that are out of range. We know that DOA has done this for other revenue sources such as parking.

DOA has not been monitoring all of the fuel data accountability elements that would be relevant in ensuring that fuel variances due to thermal expansion and human measurement error were within acceptable ranges. Doing so could provide further assurance of fuel accountability overall.