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**CITY OF SAN ANTONIO**  
**OFFICE OF THE CITY AUDITOR**



Audit of Fire Department  
Hazardous Material Inspections  
Project No. AU15-022  
December 9, 2015

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor

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## Executive Summary

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As part of our annual Audit Plan approved by City Council, we conducted an audit of the San Antonio Fire Department (SAFD), specifically the hazardous material inspection program. The audit objective, conclusion, and recommendations follow:

### **Are controls over SAFD's hazardous material inspection program adequate to ensure appropriate and timely inspections?**

No, controls are not adequate to ensure adequate and timely SAFD fire inspections of facilities housing hazardous materials. Of the City's 2,380 active hazardous material permitted facilities, 1,788 (or about 75%) have not been inspected. The SAFD lacks an effective and efficient approach to identifying San Antonio facilities storing hazardous material that require inspection and a City permit. The SAFD does not have procedures for determining if hazardous material permit holders have been billed the appropriate fee. The Hansen system, the City's system used for tracking permits and inspections, does not currently have the capability to store hazardous material permit holder information vital to SAFD inspectors and the City's hazmat program. Finally, the SAFD waives late charges and does not pursue collection of past due amounts for hazardous material permits.

We recommend that the SAFD Fire Chief:

- Ensure that all existing and newly permitted facilities are inspected timely. Furthermore, all facilities should be inspected on a periodic basis (e.g. annually for all Tier II facilities) to determine compliance with City ordinances and fire standards. Finally, all permitted facilities listed in SAP should be reconciled with facilities tracked in the Hansen system.
- Develop effective and efficient procedures to identify non-permitted hazardous material facilities for inspection and permitting purposes.
- Create procedures for determining if hazardous material permit holders have been billed the appropriate fee.
- Continue working on enhancing the Hansen system so that hazardous material inspectors can get access to critical information in order to perform their duties efficiently and effectively.
- Pursue collection of past due invoices and bill for late fees assessed for nonpayment of hazardous material permits.

SAFD management verbatim responses are in Appendix D on page 11.

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## Background

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The San Antonio Fire Department (SAFD) provides fire prevention, fire suppression, emergency medical service, emergency management, and rescue services to over 1.3 million people covering over 500 square miles. The SAFD Fire Prevention Division, which includes the Office of the Fire Marshal, is ultimately responsible for providing a fire-safe environment for the citizens of San Antonio which includes performing inspections of facilities that house hazardous materials. See a list of common hazardous materials in Appendix B.

Prior to March 2015, there were just two uniformed personnel partially dedicated to hazardous material inspections, one Fire Captain and one Inspector. In 2013, City Council approved an initiative for the addition of three full-time hazardous material inspectors and related vehicles and equipment to build an inspection program for all hazardous material facilities. In March 2015, the three new hazardous material inspectors satisfied their training requirements and were able to begin performing inspections. Consequently, the Hazardous Material Inspections program, at the new staffing level of five uniformed personnel, is just now ramping up operations to focus on public safety and inspections in addition to permit revenue collection.

The City Council also increased hazardous material permit fees to help support the three new positions. Hazardous material permit types and fees are listed in Appendix C. Since 1990, the City of San Antonio has charged an annual hazardous material permit fee on every person or organization that owns, operates, or acts as the agent for any business location where one or more hazardous materials are used, stored, transported, manufactured, generated, disposed or sold within the city. A summary of hazardous material permit revenues is shown below.

<b>FY</b>	<b>Budgeted Revenue</b>	<b>Actual Revenue</b>	<b>Count of Permit Holders</b>
<b>2011</b>	\$519,950	\$502,485	1,923
<b>2012</b>	\$540,469	\$565,716	1,832
<b>2013</b>	\$571,000	\$561,276	1,923
<b>2014</b>	\$1,500,580	\$1,216,481	2,155
<b>2015 (as of April)</b>	\$1,515,586	\$1,254,212	2,380

The permit fee is based on the largest amount (in pounds) of a single type of hazardous material, not cumulative. The SAFD requires the annual Hazardous Material Permit for all facilities that store or use hazardous materials in excess of 100 pounds. Additionally, all storage tanks of flammable and combustible liquids (e.g. unleaded gas) require a hazardous material permit.

## Audit Scope and Methodology

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The audit scope was from October 2013 to June 2015. We performed testing from March 2015 through July 2015.

To establish testing criteria, we reviewed SAFD policies and procedures, Hansen system reports and queries, and Information Bulletins published by the SAFD Fire Marshal's Office.

During the course of the audit, we reviewed SAFD's Fire Prevention Division training requirements which include the successful completion of the Inspector certification program by the Texas Commission on Fire Protection and a 6-month in-house hazardous material inspector training program.

We rode along with SAFD hazardous material inspectors and interviewed SAFD fiscal staff to get a better understanding of the hazardous material application, collections, and permitting process. Furthermore, we interviewed Fire Department management and staff of other municipalities in order to perform a comparative analysis.

We compared the SAFD hazardous material permits from SAP (the City's financial system of record) to two databases, the Texas Department of State Health Services (DSHS) Tier II<sup>1</sup> Chemical Reporting database and the Texas Commission on Environmental Quality's (TCEQ) Active Petroleum Storage Facilities database to identify facilities storing hazardous materials that the SAFD has not issued a permit.

We relied on computer-processed data in SAP and the Hansen System (the City's permitting and inspection system). Our reliance was based on performing direct tests on the data rather than evaluating general and application controls. We do not believe that the absence of testing general and application controls had an effect on the results of our audit.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusion based on our audit objective.

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<sup>1</sup> The Texas Tier II Chemical Reporting Program is the Texas state repository for Emergency Planning Letters (EPLs), which are annual notifications sent to the state from facilities that have certain extremely hazardous chemicals greater than 10,000 pounds. This data is published on the Internet and is readily available to the public and emergency response personnel.

## Audit Results and Recommendations

### A. Hazardous Material Facilities Not Inspected

Of the City’s 2,380 active hazardous material permitted facilities listed in SAP, 1,788 (or about 75%) have not been inspected. We determined that 360 of these are designated “Tier II facilities” - facilities that have greater than 10,000 pounds of certain extremely hazardous chemicals according to the Texas Department of State Health Services Tier II Chemical Reporting database.

Inspections of hazardous material storage facilities ensure that facilities containing regulated substances are in compliance with applicable state and federal laws, technical standards, and City rules/regulations to prevent releases of hazardous materials into the environment.

The following table shows the number of hazardous material inspections of permitted facilities completed by the SAFD since 2012.

<b>Hazardous Material Inspections January 2012 – May 2015</b>				
	<b>Non-Tier II Facilities</b>	<b>Tier II Facilities</b>	<b>Active Permits (SAP)</b>	<b>% of Active Permits</b>
<b>Inspected:</b>	453	139	592	25%
<b>Not Inspected:</b>	1,428	360	1,788	75%
<b>Active Permit Holders:</b>	1,881	499	2,380	

We also determined that there is a “disconnect” between the SAP system (used to bill permit holders), and the Hansen system (used by SAFD inspectors to schedule inspections). We found that of the 1,788 facilities not inspected, 372 (301 Non-Tier II and 71 Tier II facilities) were not tracked in the City’s Hansen system and consequently not even on the SAFD radar to be inspected; i.e. SAFD inspectors perform inspections based on facilities tracked in Hansen, not in SAP.

SAFD management indicated that prior to 2015, the SAFD didn’t have a mandate to create a program to perform hazardous material inspections.

Without periodic inspections of facilities storing hazardous materials, there is a risk that facilities are not compliant with laws and regulations which could have a negative impact on surrounding communities and the environment. Furthermore, there is an increased health risk to fire fighters responding to incidents at these facilities.

**Recommendation**

The SAFD Fire Chief should ensure that all existing and newly permitted facilities are inspected timely. Also, all facilities should be inspected on a periodic basis (e.g. annually for all Tier II facilities) to determine compliance with City ordinances and fire standards. Finally, all permitted facilities listed in SAP should be reconciled with facilities tracked in the Hansen system.

**B. Identification of Non-Permitted Facilities**

The SAFD lacks an effective and efficient approach to identifying San Antonio facilities storing hazardous material that require inspection and a City permit.

In order to determine if there were hazardous material locations located in San Antonio that the SAFD was not tracking (i.e. inspecting and permitting), we compared hazardous material permits from the City’s SAP system to two databases maintained by the State of Texas: the Department of State Health Services Tier II Chemical Reporting database, and the Texas Commission on Environmental Quality’s (TCEQ) Active Petroleum Storage Facilities database. We then used geographic information system (GIS) software to determine if those identified facilities are actually located within the San Antonio City limits

Our TCEQ comparison revealed a total of 481 potential locations the SAFD was not billing, for an annual total of about \$329K. Our Tier II comparison revealed a total of 143 potential locations not being billed, for an annual total of about \$106K. Combined, we determined that the non-permitted TCEQ and Tier II facilities represent an annual revenue potential to the City of about \$435K as shown in the table below. Although some of these facilities may no longer be in business or house hazardous materials, it is a good starting point for SAFD to identify unknown hazardous material sites.

<b>Non-Permitted Hazardous Material Facilities</b>					
San Antonio Facility?	TCEQ		TIER II		TOTAL Revenue
	Facilities	Annual Revenue <sup>2</sup>	Facilities	Annual Revenue <sup>3</sup>	
Address Verified	331	\$222,439	133	\$98,910	\$321,349
Address Not Verified	150	\$106,665	10	\$6,920	\$113,585
<b>Total Potential Facilities/Revenue</b>	<b>481</b>	<b>\$329,104</b>	<b>143</b>	<b>\$105,830</b>	<b>\$434,934</b>

<sup>2</sup> The TCEQ data included facility types so we were able to assign an average permit value based upon the City’s currently permitted petroleum facilities.

<sup>3</sup> The Tier II data included chemical types and quantities so we were able to calculate the potential annual hazardous material permit revenue.

According to the SAFD, a lack of administrative support resulted in the lack of an effective and efficient approach to identifying San Antonio facilities storing hazardous materials.

An ineffective practice for identifying unauthorized hazardous material facilities increases the safety risk to San Antonio and surrounding communities, the environment, and fire fighters responding to incidents at these facilities.

### **Recommendation**

The SAFD Fire Chief should develop effective and efficient procedures for identifying non-permitted hazardous material facilities for inspection and permitting purposes.

### **C. Identification of Incorrectly Permitted Facilities**

The SAFD does not have procedures for determining if hazardous material permit holders have been billed the appropriate fee. For example, the SAFD does not survey active hazardous material permit holders on an annual basis to determine if chemical types or quantities have changed.

In compliance with City Ordinance, the SAFD bills hazardous material permit holders annually for permit fees ranging from \$300 to \$3,930 based upon the maximum quantity of a hazardous material present at their facility at any one time during the preceding year. In the case of service stations engaged in retail sales of fuel, a flat fee of \$600 per location is billed. However, in practice the SAFD automatically invoices hazardous material permit holders for the same invoice amount as the prior year without verifying if the chemical types or amounts have changed.

We reviewed the 499 active Tier II permitted facilities referenced in Audit Results section A above and verified the type of hazardous material permit the facility should have applied for with the City in FY2015 and compared the results to the facility's existing permit type. Of the 499 facilities, 153 (31%) did not have the appropriate permit for their material quantity. We determined that the SAFD under-billed existing permit holders \$58,960 for FY 2015 based on information found in the Texas State Tier II database.

The SAFD indicated that they did not have the resources to develop procedures for determining if hazardous material permit holders had been billed the appropriate fee.

Ineffective monitoring of permit holders could result in mis-identification of hazardous material quantities/types and associated risks as well as a loss of revenue to the City.

## **Recommendation**

The SAFD Fire Chief should create procedures for determining if hazardous material permit holders have been billed the appropriate fee.

### **D. Hansen System Functionality Lacking**

The Hansen system, the City's system used for tracking permits and inspections, does not currently have the capability to store hazardous material permit holder information vital to SAFD inspectors and the City's hazmat program.

The Hansen system lacks the capability to track such information as primary point of contact, material types and quantities being stored, permit types, and permit fee payment history. This information is currently stored in a file cabinet in hardcopy form.

As a result, hazardous material inspectors in the field have to call the SAFD Fiscal office and request an administrator lookup customer information stored on the physical application (or in SAP) which is inefficient for both the inspector and the Fiscal office. If this information was tracked in the Hansen system, inspectors could access it in the field, in real-time, with their tablets.

During the course of fieldwork, we were informed that Hansen administrators are currently working on a solution to capture this type of information in the case files stored in the Hansen system so that hazardous material inspectors can get access to all essential permit holder information while in the field. This solution is currently being tested.

## **Recommendation**

The SAFD Fire Chief should continue working on enhancing the Hansen system so that hazardous material inspectors can get access to critical information in order to perform their duties efficiently and effectively.

### **E. Waiving of Unpaid Permit Fees and Late Fees**

The SAFD does not pursue collection of past due amounts or late charges.

We determined that from FY2011 through May FY2015, the total sum of permit fee invoices not paid totaled \$137,572, and late charges waived by the SAFD totaled \$17,937. The original City Ordinance relating to hazmat permits was passed in 1990 and establishes a late fee charge of 1% of the permit fee. This late fee is charged starting the first day of March following a January 1st due date, and on the first day of each month thereafter.

According to the SAFD, due to complications implementing billing for late charges in SAP, the decision was made to waive them.

These actions, taken improperly without the approval of City Council, eliminate any incentive for facilities to pay their annual hazardous material fees on time (or at all).

**Recommendation**

The SAFD Fire Chief should pursue collection of past due invoices and bill for late fees assessed for nonpayment of hazardous material permits.

## **Appendix A – Staff Acknowledgement**

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Mark Bigler, CPA-Utah, CISA, CFE, Audit Manager  
Gabe Trevino, CISA, Auditor in Charge  
Daniel Kuntzelman, Auditor

## Appendix B – 20 Common Hazardous Materials

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<b>Hazardous Chemical Name</b>
1. Sulfuric Acid
2. Diesel Fuel
3. Chlorine
4. Lead
5. Gasoline
6. Petroleum Crude Oil
7. Cement
8. Propane
9. Sodium Hydroxide
10. Carbon Dioxide
11. Nitrogen
12. Hydrochloric Acid
13. Liquid Oxygen
14. Nitric Acid
15. Motor Oil
16. Ethylene Glycol
17. Fluorosilicic Acid
18. Argon
19. Ferrous Sulfate
20. Ammonia

## Appendix C – Hazardous Material Permit Fees

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<b>Hazmat Annual Permit Fee Description (LBS.)</b>	<b>FY 2013 Fee Structure</b>	<b>FY 2014 Fee Structure</b>	<b>Percent Increase</b>
Retail Service Station	\$346	\$600	73%
101 - 999	\$72	\$300	317%
1,000 - 4,999	\$139	\$390	181%
5,000 - 9,000	\$243	\$490	102%
10,000 - 49,999	\$346	\$600	73%
50,000 - 99,999	\$516	\$1,020	98%
100,000 - 499,999	\$687	\$1,190	73%
500,000 - 999,999	\$1,033	\$1,530	48%
1,000,000 - 4,999,999	\$1,374	\$1,870	36%
5,000,000 - 9,999,999	\$1,720	\$2,220	29%
10,000,000 - 49,999,999	\$2,061	\$2,560	24%
50,000,000 - 99,999,999	\$2,748	\$3,250	18%
≥100,000,000	\$3,429	\$3,930	15%

## Appendix D – Management Response

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### **CITY OF SAN ANTONIO**

P.O. Box 839966  
SAN ANTONIO TEXAS 78283-3966

November 13, 2015

Kevin W. Barthold, CPA, CIA, CISA  
City Auditor  
San Antonio, Texas

RE: Management's Corrective Action Plan for Audit of Hazardous Material Inspections

The San Antonio Fire Department has reviewed the audit report and has developed the Corrective Action Plans below corresponding to report recommendations.

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
1	<p><b>Hazardous Material Facilities Not Inspected</b></p> <p><b>Recommendation</b> The SAFD Fire Chief should ensure that all existing and newly permitted facilities are inspected timely. Also, all facilities should be inspected on a periodic basis (e.g. annually for all Tier II facilities) to determine compliance with City ordinances and fire standards. Finally, all permitted facilities listed in SAP should be reconciled with facilities tracked in the Hansen system.</p>	Page 4	Accept	Deputy Chief Carl Wedige	<ul style="list-style-type: none"> <li>• HANSEN upgrade for HAZMAT entry (Complete)</li> <li>• Inspection of all facilities on the active list (18 months)</li> <li>• HANSEN data entry update from SAP (8 months: May 2016)</li> <li>• Three inspectors operational May 2015</li> </ul>
<p><b>Action plan:</b></p> <ul style="list-style-type: none"> <li>• The focus of the HAZMAT inspection program that was approved for Fiscal Year 2015 and became operational in May of 2015 is to provide appropriate inspections of facilities within our community that house these substances. This program added three inspectors to address the deficiency in our ability to inspect these types of facilities. The frequency will be determined by the hazard the facility may pose to the community.</li> <li>• ITSD upgraded HANSEN system with new inspection type and data fields. Update complete.</li> <li>• Admin support has been assigned additional duties to include data entry from SAP to HANSEN system. Data entry is manual and takes approximately 10-15 minutes per entry.</li> <li>• All sites on the active permit list are being inspected. Completion of the 2,380 sites will be complete in 18 months. Sites are ranked after the initial inspection in priority order for follow-up inspection as follows: (1) annual inspection-highest priority, (2) Biennial inspection, (3) Triennial inspection-lowest priority.</li> </ul>					

Audit of Fire Department Hazardous Material Inspections

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
2	<p><b>Identification of Non-Permitted Facilities</b></p> <p><b>Recommendation</b> The SAFD Fire Chief should develop effective and efficient procedures for identifying non-permitted hazardous material facilities for inspection and permitting purposes.</p>	Page 5	Accept	Deputy Chief Carl Wedige	<ul style="list-style-type: none"> <li>• Annually</li> <li>• Next Tier II update May 2016</li> </ul>
<p><b>Action plan:</b></p> <ul style="list-style-type: none"> <li>• Texas Tier II list is reconciled every May. Staff will compare Tier II list with Active HAZMAT permit list annually.</li> <li>• Texas Commission on Environmental Quality list is updated as reported. Staff will be compare active HAZMAT permit list with TCEQ list annually.</li> <li>• HAZMAT inspectors "cold call" sites when inspecting in industrial areas to verify code compliance.</li> <li>• HAZMAT inspectors review plans and inspect all new facilities for tank and operational permits. Inspectors require all new facilities to comply with HAZMAT ordinance at the time of final inspection for CofO.</li> </ul>					
3	<p><b>Identification of Incorrectly Permitted Facilities</b></p> <p><b>Recommendation</b> The SAFD Fire Chief should create procedures for determining if hazardous material permit holders have been billed the appropriate fee.</p>	Page 6	Accept	Deputy Chief Carl Wedige	<ul style="list-style-type: none"> <li>• Complete</li> </ul>

Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
	<p><b>Action plan:</b></p> <ul style="list-style-type: none"> <li>• Procedure is complete. SAFD HAZMAT inspectors verify fee by checking data entry in HANSEN provided by admin support. If the fee has not yet been updated in HANSEN (complete by May 2016), inspector will call admin support from the site to verify in SAP and update in HANSEN system.</li> </ul>				
4	<p><b>Hansen System Functionality Lacking</b></p> <p><b>Recommendation</b> The SAFD Fire Chief should continue working on enhancing the Hansen system so that hazardous material inspectors can get access to critical information in order to perform their duties efficiently and effectively.</p>	Page 6	Accept	Deputy Chief Carl Wedige	<ul style="list-style-type: none"> <li>• HANSEN update complete</li> <li>• HANSEN data entry complete by May 2016</li> </ul>
	<p><b>Action plan:</b></p> <ul style="list-style-type: none"> <li>• HANSEN system has been updated with new inspection type and data fields needed by inspectors at the site.</li> <li>• Staff is updating HANSEN with necessary SAP info. Project will be completed by May 2016.</li> </ul>				
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Recommendation					
#	Description	Audit Report Page	Accept, Decline	Responsible Person's Name/Title	Completion Date
5	<p><b>Waiving of Unpaid Permit Fees and Late Fees</b></p> <p><b>Recommendation</b> The SAFD Fire Chief should pursue collection of past due invoices and bill for late fees assessed for nonpayment of hazardous material permits.</p>	Page 7	Accept	Deputy Chief Carl Wedige	<ul style="list-style-type: none"> <li>Complete</li> </ul>
<p><b>Action plan:</b></p> <ul style="list-style-type: none"> <li>Fiscal Staff currently sends three notifications of nonpayment for past due accounts. Those accounts with high balances (greater than \$3K0 are turned over to the City Attorney's office to pursue payment. The smaller balances remain on the books and if they remain unpaid are eventually written off.</li> <li>As of May 2015, noncompliance with fee payment is a violation of the fire code and is a Class "C" misdemeanor. Fiscal staff will add language to the third notice of nonpayment indicating that further noncompliance will result in issuance of citation. Citations will then be issued for continued non compliance with the Fire Code.</li> <li>Fiscal staff has been advised to bill appropriately per ordinance. Late fees will be addressed through the billing process.</li> </ul>					

We are committed to addressing the recommendations in the audit report and the plan of actions presented above.

Sincerely,



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Charles N. Hood  
Fire Chief  
San Antonio Fire Department

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Date



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Erik Walsh  
Deputy City Manager  
City Manager's Office

\_\_\_\_\_  
Date

11/16/15

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