

Fuel Receiving Controls

Follow-up Report

September 14, 2016



OIG NEW ORLEANS OFFICE OF
INSPECTOR GENERAL

E. R. Quatrevaux, Inspector General

OFFICE OF INSPECTOR GENERAL
CITY OF NEW ORLEANS



ED QUATREVAUX
INSPECTOR GENERAL

September 14, 2016

Re: Fuel Receiving Controls: Follow-up Report

I certify that the inspector general personnel assigned to this project are free of personal or other external impairments to independence.

A handwritten signature in blue ink, appearing to read "E.R. Quatrevaux", positioned above the printed name.

E.R. Quatrevaux
Inspector General

TABLE OF CONTENTS

EXECUTIVE SUMMARY V

I. OBJECTIVES, SCOPE, AND METHODS 1

II. INTRODUCTION 3

III. FOLLOW-UP ON RECOMMENDATIONS 4

Recommendation 1: The City should establish official fuel receiving procedures for facilities with electronic monitoring devices. 4

Follow-up 1: The City implemented a process to monitor and verify fuel deliveries made to facilities with electronic monitoring devices before issuing payment..... 4

Recommendation 2: The City should install electronic monitoring devices at all fuel facilities..... 7

Follow-up 2: The City did not install electronic monitoring devices at non-automated fueling facilities and fuel receiving processes at these locations remained ineffective. 7

Recommendation 3: The City should review all invoices prior to issuing payment.... 11

Follow-up 3: The Fuel Services Administrator developed an invoice review process and nearly all invoices submitted in 2015 included the correct taxes. The City recovered approximately 82 percent of the taxes it overpaid in 2013. 11

Recommendation 4: The City should require all fuel vendors to submit bills of lading with invoices. 13

Follow-up 4: The City’s fuel contracts did not consistently communicate requirements related to bills of lading (BOLs); however, the City updated its BOL requirements during the course of this follow-up..... 13

Recommendation 5: The City should independently verify fuel prices before issuing payments to vendors. 14

Follow-up 5: The City acquired its own subscription to the Oil Price Information Service in January 2016. Fuel vendors billed the correct per-gallon price for fuel and markup fees were usually delineated..... 14

IV. CONCLUSION..... 16

APPENDIX A. ACTIVE AUTOMATED CITY OF NEW ORLEANS FUEL FACILITIES 18

APPENDIX B. ACTIVE NON-AUTOMATED CITY OF NEW ORLEANS FUEL FACILITIES 19

APPENDIX C. SUMMARY OF BEST PRACTICES FOR FUEL INVENTORY CONTROLS 20

LIST OF FIGURES

Figure 1. Electronic Monitoring Device Pricing Estimates 10

Figure 2. Summary of Follow-up Findings 17

The Office of Inspector General (OIG) conducted a follow-up to its July 2013 report, “Inspection of City of New Orleans Fuel Receiving Controls.” The original report included the following findings:

- The City did not have a system in place to verify upon delivery how much fuel was received at its primary fueling locations.
- The City did not manually verify receipt of approximately 48,000 gallons of fuel delivered to facilities without electronic monitoring devices between January 2012 and October 2012.
- As a result of billing errors, the City overpaid approximately \$36,000 in federal excise taxes it did not owe.
- The City did not require vendors to submit documentation that verified how much fuel was loaded onto delivery vehicles.
- The City did not independently verify that it paid the correct price for fuel.

The original report included five recommendations to alleviate the above problems and improve the City’s ability to safeguard its investment in fuel.

The objective of this follow-up report was to determine the extent to which the City implemented OIG recommendations to improve the effectiveness of its fuel receiving controls. The scope of the follow-up included all fuel delivered to the City in 2015 and compensation received since 2013 for past overbilling. In addition, evaluators reviewed changes the City made to its fuel receiving processes since the original inspection of the City’s fuel receiving controls.

Evaluators who conducted the follow-up found that the City made significant improvements to its fuel receiving controls, including:

- The Fuel Services Administrator developed a process to monitor and verify fuel deliveries made to facilities with electronic monitoring devices before issuing payments to vendors.
- The Fuel Services Administrator instituted regular fuel inventory reconciliation for these sites consistent with best practices.

- The City improved its invoice review process to identify billing errors and independently verify pricing information.

The City should formally institutionalize these improved processes in a departmental policy or standard operating procedure to ensure their continued implementation.

However, one area of fuel receiving remained susceptible to waste and abuse: the City had not resolved its ineffective fuel receiving controls at non-automated sites. The City rejected the OIG's recommendation in 2013 to install electronic monitoring devices at all sites, and there was still no clear, consistent fuel receiving policy at these facilities. The follow-up revealed that employees still did not manually verify deliveries, which was crucial to ensuring that the correct number of gallons was delivered. Evaluators also found that fuel at these sites was not reconciled according to best practices.

The City could benefit from establishing a citywide policy for fuel receiving. Even if all city fuel sites are automated, the policy should require manual measurement and accurate recordkeeping as a contingency when automation is not available or defective.

I. OBJECTIVES, SCOPE, AND METHODS

The Office of Inspector General of the City of New Orleans (OIG) conducted a follow-up to its July 2013 report, "Inspection of City of New Orleans Fuel Receiving Controls." The objective of the follow-up was to determine the extent to which the City implemented the report's recommendations to improve the effectiveness of its fuel receiving controls.

The scope of the follow-up included all fuel delivered to the City in 2015 and compensation received since 2013 for past overbilling. In addition, evaluators reviewed changes the City made to its fuel receiving processes since the original inspection of the City's fuel receiving controls.

Pursuant to Sections 2-1120(12) and (20) of the Code of the City of New Orleans and La. R.S. 33:9613, evaluators interviewed personnel and obtained documents from the City's Equipment Maintenance Division (EMD), Department of Parks and Parkways, New Orleans Fire Department (NOFD), Finance Department, Leaaf Environmental, LLC ("Leaaf"), Petroleum Traders Corporation ("Petroleum Traders"), Retif Oil & Fuel ("Retif"), and Siarc Inc. Oil & Fuel. Specifically, evaluators obtained the following records:

- bulk fuel contracts and amendments (2011-2015);
- electronic fuel monitoring records (2015);
- documentation related to compensation for federal excise taxes paid in 2012 and 2013;
- NOFD fuel use records (2015);
- invoices, bills of lading, and delivery tickets submitted to the City for fuel purchased (2015);
- fuel pricing data generated by the Oil Price Information Service (OPIS); and
- fuel inventory tracking documents and reconciliations performed by the EMD.

The City received 433 fuel delivery invoices for 2015. Evaluators selected a random sample of 204 fuel invoices to determine whether the City made improvements in accordance with the report's recommendations. Evaluators calculated the sample size based on a 95 percent confidence level in order to draw conclusions about all invoices submitted in 2015. The results of evaluators' analysis of sample invoices and supporting documentation, bills of lading, and delivery tickets are detailed in the follow-up to Recommendations 3 through 5.

This report was performed in accordance with Principles and Standards for Offices of Inspector General for Inspections, Evaluations and Reviews.¹

¹ Association of Inspectors General, "Quality and Standards for Inspections, Evaluations, and Reviews by Offices of Inspector General," Principles and Standards for Offices of Inspector General (New York: Association of Inspectors General, 2014).

II. INTRODUCTION

The Office of Inspector General (OIG) issued “Inspection of City of New Orleans Fuel Receiving Controls” in July 2013. The report included the following findings:

1. The City did not have a system in place to verify upon delivery how much fuel was received at its primary fueling locations.
2. The City did not verify receipt of approximately 48,000 gallons of fuel delivered to facilities without electronic monitoring devices between January 2012 and October 2012.
3. As a result of billing errors, the City overpaid approximately \$36,000 in federal excise taxes for diesel fuel.
4. The City did not require vendors to submit documentation that verified how much fuel was loaded onto delivery vehicles.
5. The City did not independently verify that it paid the correct price for fuel.

Evaluators made five recommendations to address these deficiencies. The purpose of this follow-up was to determine whether the City implemented the corrective actions to which it agreed in July 2013 and if the deficiencies identified in the original report still existed.

OIG evaluators were assisted in the preparation of this report by the full cooperation of City of New Orleans employees and officials and third-party contractors that provided the City with fuel and ancillary services.

III. FOLLOW-UP ON RECOMMENDATIONS

The City spent approximately \$3.2 million on gasoline and diesel fuel in 2015.² Given this significant investment of public resources, the City needs effective controls to ensure that the amount of fuel purchased by the City is delivered to designated facilities at the correct cost. Evaluators found that the City significantly improved its fuel receiving processes since the original report was issued in 2013. However, there were still some unresolved deficiencies.

RECOMMENDATION 1: THE CITY SHOULD ESTABLISH OFFICIAL FUEL RECEIVING PROCEDURES FOR FACILITIES WITH ELECTRONIC MONITORING DEVICES.

*Recommendation Accepted by the City. "The City will implement this recommendation with the following plan of action: (1) EMD will use Poll Veeder Root weekly to review and justify fuel invoices received from vendors; (2) EMD will utilize reports taken from Poll Veeder Root 'Inform' as part of a documenting process; and (3) EMD will work with MMG to identify drop variances that will warrant further analysis."*³

FOLLOW-UP 1: THE CITY IMPLEMENTED A PROCESS TO MONITOR AND VERIFY FUEL DELIVERIES MADE TO FACILITIES WITH ELECTRONIC MONITORING DEVICES BEFORE ISSUING PAYMENT.

In the original report, evaluators found that the City lacked effective receiving controls at its automated fueling facilities.⁴ Fuel deliveries were made without verifying that the number of gallons delivered matched the number of gallons purchased. The City's former environmental services contractor performed periodic reconciliations of fuel deliveries and fuel usage but the lack of timely

² Evaluators totaled the fuel costs recorded in the City's ledger, Great Plains; the total did not include ancillary costs for maintenance of the automated fuel system or environmental services.

³ Materials Management Group, Inc. (MMG) was the City's environmental services contractor at the time of the original report. In 2015 the City awarded Leaa Environmental, LLC a professional services contract to provide a similar scope of services.

⁴ Throughout this report, the term "automated" refers to fuel facilities where electronic monitoring devices (also known as "automatic tank gauges" or ATGs) are installed on fuel tanks. Facilities where no such devices are installed are referred to as "non-automated." Locations of automated and non-automated fueling facilities are included in Appendices A and B.

review made it unlikely that suspicious deliveries would be detected before payment was issued.

Evaluators conducting the follow-up found that the City implemented all three components of its proposed action plan:

- 1) In 2012 the City purchased Veeder Root Inform, a monitoring software that enabled the Fuel Services Administrator to access information remotely about fuel inventory at the City's four automated locations.⁵ According to the Fuel Services Administrator, he began comparing fuel delivery amounts from the monitoring system to fuel amounts listed on vendor invoices when he began working in his position in January 2014.
- 2) Because the monitoring software retained limited historical data, the Fuel Services Administrator began recording delivery amounts in a separate spreadsheet in October 2015 in order to have the data readily available at the time of payment. He continued to refine this process in early 2016 and had an effective process in place at the time this report was issued.
- 3) In January 2016 the Fuel Services Administrator established a variance threshold of 50 gallons or fewer for every 3,000 gallons delivered, or 1.67 percent.⁶ Deliveries that exceeded this threshold would warrant further investigation.

The Fuel Services Administrator also started performing monthly fuel inventory reconciliations rather than assigning the task to the environmental services contractor (Leaaf). He developed these reconciliation procedures based on guidance from Leaaf and conducted a pilot reconciliation for fuel deliveries made to two automated fueling locations in November 2015. The Fuel Services Administrator used information from these pilot reconciliations to make

⁵ The monitoring devices recorded fuel volume twice daily at midnight and noon, as well as delivery amounts whenever they occurred. Although the original report found that electronic monitoring devices were not functioning at some sites, evaluators found that all devices recorded data during the course of this follow-up. A limited history of these readings could be queried through the Inform software, and all readings were recorded on receipt tape generated by the device equipment at each fuel site. During the scope period the City's environmental services contractor regularly collected these receipts and provided them to EMD for recordkeeping.

⁶ Leaaf suggested this variance threshold from a fuel inventory audit from Florida; see Office of Inspector General, South Florida Water Management District, Review of Internal Controls over Fuel Inventory, (West Palm Beach, FL: Office of Inspector General, South Florida Water Management, 2009), 9, accessed August 4, 2016, http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/final%20%20fuel%20report.pdf.

additional improvements to the process beginning in early 2016.⁷ The City improved its ability to identify unusual variances in a timely manner by reconciling fuel inventory at automated sites more regularly and in accordance with best practices.

Changes to the City's internal fuel inventory and invoice verification processes for locations with electronic monitoring devices had not been formally established in any departmental policy or protocol despite recent updates to the City's fuel solicitations regarding fuel measurement methods.⁸ CAO Policy Memo 5(R) provided instruction on motor vehicle use and fuel dispensing processes but did not include any information about fuel receiving at automated facilities. The EMD should document internal processes, roles, and responsibilities in a written policy to ensure continuity in the event there is turnover in personnel, environmental services contractor, or vendors.⁹

⁷ The January 2016 reconciliation applied the variance threshold described above (50 gallons or fewer for every 3,000 gallons delivered, or 1.67 percent) and included daily and monthly variances for all four automated locations by fuel type. In addition to tracking inventory by fuel type, by July 2016, the Fuel Services Administrator was tracking fuel by groups of gasoline pumps at Broad St., the City's busiest fuel facility.

⁸ Shortly after release of the original report, the City issued a new diesel fuel solicitation that stated "all metered deliveries will be verified by electronic automatic tank gauges [ATG] and the City's third party vendor. Any discrepancies must be documented and immediately submitted to the Equipment Maintenance Division Fuel Services Supervisor for resolution as soon as possible. In any event, the ATG measurement will be used to determine the volume delivered." However, the City's 2011 solicitation for gasoline stated that stick measurement would be the standard and corresponding fuel contracts (which remain in effect through October 2016) were never amended to reflect this change. In May 2016, the City issued two new gasoline solicitations establishing "ATG reports and/or stick measurement" as the verification standard.

⁹ In addition to relying on input from Leaaf, the Fuel Services Administrator obtained fuel dispensing data from Retif in order to conduct reconciliations.

RECOMMENDATION 2: THE CITY SHOULD INSTALL ELECTRONIC MONITORING DEVICES AT ALL FUEL FACILITIES.

*Recommendation **Not Accepted** by the City. “We agree with your recommendation in theory, but believe that until the cost of such devices drops substantially, it would not be cost effective to implement at this time. [...] Instead, the City will ensure that its policies and procedures currently in place to verify fuel deliveries manually are being adhered to.”*

FOLLOW-UP 2: THE CITY DID NOT INSTALL ELECTRONIC MONITORING DEVICES AT NON-AUTOMATED FUELING FACILITIES AND FUEL RECEIVING PROCESSES AT THESE LOCATIONS REMAINED INEFFECTIVE.

The City also had sites without electronic monitoring devices.¹⁰ City employees at these locations were required to verify fuel deliveries manually by inserting a measurement stick into the fuel tank and using a conversion chart to determine the number of gallons. The manual verification process was not formally outlined in citywide or departmental policy but was included in solicitations seeking bids from fuel vendors.¹¹ In the original report, evaluators found that city personnel did not perform manual verification of approximately 48,000 gallons of fuel delivered to non-automated locations.¹²

Although significantly less fuel was delivered to these sites compared to automated locations, effective receiving controls were needed to ensure that the City received the correct amount of fuel. Evaluators recommended that the City install electronic monitoring devices to provide improved oversight. The City estimated that it would cost between \$80,000 and \$100,000 to install electronic monitoring devices at its eleven non-automated locations and rejected the OIG recommendation, stating it would be cost prohibitive to install these devices.

¹⁰ At the time of the original report, the City had a total of 11 non-automated sites. Nine were located at NOFD stations and the remaining two were located at the Joseph M. Bartholomew Golf Course and Central Maintenance Garage. According to the City, those non-automated locations accounted for approximately 3.4 percent of fuel dispensed citywide. At the time of this follow-up, the City had 12 non-automated sites (see Appendix B), and considered adding additional fuel tanks at selected NOFD stations.

¹¹ Specifications from bid solicitations are typically incorporated into contracts with vendors. In its response to the original report, the City stated that it had a manual verification process in place for at least 20 years.

¹² City personnel at these locations cited a lack of functional equipment and unclear policy requirements as reasons for noncompliance.

Instead, the City stated it would ensure employees complied with the existing manual verification process outlined in previously-issued bid solicitations.

Evaluators confirmed that the City had twelve non-automated sites and that it still lacked effective citywide or departmental policies requiring manual verification of fuel deliveries.¹³ Evaluators conducted interviews and observed fuel deliveries at selected NOFD locations and the Joseph M. Bartholomew Golf Course and found that timely and accurate verification of fuel deliveries did not occur consistently:

- Deliveries to NOFD locations were sometimes recorded days later and fuel logs frequently included arithmetic and rounding errors.¹⁴
- NOFD personnel did not witness delivery completion at any of the stations observed or perform manual verification.
- The Golf Course Superintendent stated that employees relied on the delivery driver to measure deliveries with his own measurement stick, but delivery tickets reviewed by evaluators indicated that drivers did not systematically record this information.
- The Golf Course Superintendent stated that employees measured fuel in tanks the morning after a delivery, and every two weeks in order to know when to reorder, but they did not systematically record the measurements.

The examples listed above illustrate the City's lack of an effective mechanism in place to determine if the correct amount of fuel was delivered to non-automated locations. In addition, evaluators found that the City had not been performing

¹³ The City's fuel use policy was outlined in CAO Policy Memo 5(R). The policy did not outline any fuel receiving procedures at non-automated locations. NOFD had a policy that addressed fuel receiving, but it did not contain any provisions requiring employees to witness or independently verify fuel deliveries in accordance with best practices. By 2013 the City's diesel fuel contract made electronic monitoring devices the standard delivery verification method for diesel fuel. This left NOFD locations without a verification process because they did not have electronic monitoring devices. The gasoline contract in place during the follow-up required stick measurement, but personnel at the Joseph M. Bartholomew Golf Course did not manually verify fuel deliveries.

¹⁴ New Orleans Office of Inspector General, *Fuel Dispensing*, (New Orleans, LA: New Orleans Office of Inspector General, 2016), 35-39. After the release of *Fuel Dispensing*, the City began to repair NOFD fuel dispensing meters, and the Fuel Services Administrator stated that he was spot-checking the log calculations for accuracy prior to invoice payment. Although this was an effort to improve oversight of fuel inventory at non-automated locations, the delivery information on NOFD fuel logs was still being copied from delivery tickets rather than independently verified by stick measurement.

regular fuel inventory reconciliations at these sites, which further limited their ability to identify fuel shortages.

These longstanding deficiencies indicate that the City should reconsider its decision not to purchase electronic monitoring devices. These 12 unautomated locations accounted for approximately 60,000 gallons in 2015; installing electronic monitoring devices at these sites would automate fuel receiving and improve the reconciliation processes.

A former fuel vendor (Retif) previously operated electronic monitoring devices at NOFD fuel tanks.¹⁵ Evaluators researched the cost of these and similar devices that had the ability to read tank levels regularly and register delivery amounts to determine if more affordable alternatives than those previously identified by the City existed. Evaluators found lower cost alternatives to the City's estimates (\$80,000 to \$100,000) from the original report. Figure 1 provides a summary of these alternatives:

¹⁵ The devices were capable of registering delivery volume but Retif used them to automate the fuel ordering process. According to Retif, the City did not use the devices. Some of the devices were damaged during Hurricane Katrina and the remaining devices were removed by Retif when Henry Consulting was awarded the diesel fuel contract in 2012.

Figure 1. Electronic Monitoring Device Pricing Estimates¹⁶

Tank Description	OIG estimate: Ten 500 gallon diesel ASTs (NOFD)	OIG estimate: One 2,500 gallon diesel UST (NOFD)	OIG estimate: Two 500 gallon gasoline ASTs (Golf Course)	OIG estimate: Total for 12 ASTs and 1 UST	City's 2013 Estimate: Total for 11 ASTs
Initial Installation & Year 1 Data Monitoring, Low estimate	\$5,700	\$6,300	\$1,900	\$13,900	\$80,000
Initial Installation & Year 1 Data Monitoring, High estimate	\$8,200	\$6,300	\$2,000	\$16,500	\$100,000
Average Annual Data Monitoring Fee	\$1,100	\$0	\$200	\$1,300	Unknown

NOFD had ten non-automated diesel above-ground storage tanks (ASTs). Evaluators found at least two types of “inventory-only” electronic monitoring devices from different manufacturers that were suitable for such tanks. The devices ranged from \$5,700 to \$8,200 to install and operate for the first year on all ten ASTs. For subsequent years, data connectivity would cost between \$1,000 and \$1,200 for all ten tanks.

The 2,500 gallon diesel tank at NOFD Engine 1 was located underground, and evaluators identified a device similar to those installed on the City’s other underground storage tanks (USTs).¹⁷ This type of device and its related equipment cost approximately \$6,300.

Finally, inventory-only electronic monitoring devices for the two 500 gallon gasoline tank compartments at Joseph M. Bartholomew Golf Course would cost between \$1,900 and \$2,000 to install and operate for the first year, with an annual data charge of approximately \$200 after that.

¹⁶ All amounts are approximate based on estimates provided by monitoring device vendors and manufacturers. Additional installation costs may apply.

¹⁷ In addition to providing inventory control, the device performs leak testing.

If the City does not purchase and install electronic monitoring devices, it should establish an official manual fuel receiving policy and communicate those requirements to all employees and fuel vendors.¹⁸ The policy should be developed in accordance with fuel verification procedures developed by the United States Environmental Protection Agency (EPA).¹⁹

RECOMMENDATION 3: THE CITY SHOULD REVIEW ALL INVOICES PRIOR TO ISSUING PAYMENT.

*Recommendation **Accepted** by the City. "[...] EMD has taken additional steps with employees and supervisors to ensure that every line item on an invoice is reviewed carefully."*

FOLLOW-UP 3: THE FUEL SERVICES ADMINISTRATOR DEVELOPED AN INVOICE REVIEW PROCESS AND NEARLY ALL INVOICES SUBMITTED IN 2015 INCLUDED THE CORRECT TAXES. THE CITY RECOVERED APPROXIMATELY 82 PERCENT OF THE TAXES IT OVERPAID IN 2013.

In 2013 evaluators found that the City's former diesel fuel vendor, Henry Consulting, charged the City federal excise taxes that it did not owe but did not charge the City for a tax it was required to pay (Leaking Underground Storage Tank tax or "LUST" tax).²⁰ The net difference in these errors resulted in an additional charge to the City of \$0.243 for each gallon of diesel fuel purchased from Henry Consulting.²¹ The City's failure to detect these billing errors resulted in overpayments totaling approximately \$36,300. Evaluators recommended that the City make improvements to the invoice review process to prevent similar errors from occurring in the future.

Evaluators found during the follow-up that the Fuel Services Administrator developed a process for reviewing invoices that included a check to ensure that

¹⁸ Even if the City purchases electronic monitoring devices for all fuel facilities, it should establish a policy that requires implementation of effective manual fuel receiving procedures in the event of malfunctioning devices, internet outages, or any other unforeseen circumstances. This policy should be clearly communicated to all employees and fuel vendors.

¹⁹ See Appendix C for specific information on best practices for fuel inventory controls.

²⁰ According to Internal Revenue Service (IRS) Publication 510, federal law provides a fuel excise tax exemption for fuel purchased by a state or political subdivision for its own exclusive use. U.S. Department of the Treasury, Internal Revenue Service, *Publication 510: Excise Taxes, 2016*, accessed August 5, 2016, <https://www.irs.gov/pub/irs-pdf/p510.pdf>.

²¹ Federal excise tax on diesel fuel was \$0.244 per gallon. The LUST tax was \$.001 per gallon. US Department of the Treasury, Internal Revenue Service, *Publication 510: Excise Taxes, 2016*, accessed August 5, 2016, <https://www.irs.gov/pub/irs-pdf/p510.pdf>.

the correct taxes were being charged before issuing payment. Evaluators found that 1.5 percent of the sample (three invoices), incorrectly billed for federal excise taxes and that the LUST tax was correctly billed on all invoices in the random sample.

The City had attempted to recover the federal excise taxes for which it was overbilled by Henry Consulting (approximately \$36,300). Henry Consulting provided documentation that showed it provided partial compensation in the form of two diesel fuel deliveries in July 2013. In addition to falling short of the total amount owed, the invoices for those deliveries inflated the total value of the fuel delivery: Henry Consulting had repeated its previous error by including non-applicable federal excise taxes.²²

Evaluators estimated that by early 2016, the City had been compensated approximately \$29,890.²³ In February 2016, the City Attorney's Office contacted Henry Consulting to recover the remaining balance of \$6,440. As of August 2016, the City was still seeking reimbursement from Henry Consulting.

²² Henry Consulting also repeated its previous error of omitting the applicable \$.001 LUST tax from these invoices.

²³ In addition to the error in taxes, the volume of fuel reflected on the invoice for one of these deliveries differed from the volume recorded by a City ATG. Evaluators estimated this discrepancy in fuel volume to be worth approximately \$1,970 of the total amount delivered. The City Attorney's Office had not yet formally pursued that amount because of a dispute about the accuracy of the City's ATG.

RECOMMENDATION 4: THE CITY SHOULD REQUIRE ALL FUEL VENDORS TO SUBMIT BILLS OF LADING WITH INVOICES.

Recommendation Accepted by the City. "We agree with this recommendation and the City currently requires vendors delivering bulk fuel to present bills of lading with their invoices. The City does not submit payment to any fuel vendor until all information is received, which includes the bills of lading."

FOLLOW-UP 4: THE CITY'S FUEL CONTRACTS DID NOT CONSISTENTLY COMMUNICATE REQUIREMENTS RELATED TO BILLS OF LADING (BOLs); HOWEVER, THE CITY UPDATED ITS BOL REQUIREMENTS DURING THE COURSE OF THIS FOLLOW-UP.

State law requires wholesale fuel vendors to provide customers with a bill of lading (BOL) that includes information such as the temperature and adjusted gravity of the fuel.²⁴ Bulk fuel customers are typically charged for the adjusted number of gallons (i.e., net gallons) because it represents the amount of fuel that was actually delivered. A former fuel vendor (Retif) did not provide the City with BOLs and charged the City for unadjusted fuel volume (i.e., gross gallons). Evaluators estimated that the City overpaid approximately \$26,200 for fuel that was not delivered during a nine month period in 2012.

To avoid such billing errors, evaluators recommended in 2013 that the City amend its contracts to require all fuel vendors to submit BOLs with invoices and clearly state that fuel vendors will only be paid for net gallons delivered. Communicating these requirements would enable the City to outline performance expectations and manage its fuel vendors effectively.

Evaluators reviewed the City's fuel contracts and corresponding bid solicitations as part of the OIG's follow-up and found that the City did not consistently communicate BOL requirements to its fuel vendors. In 2013 the City issued a solicitation for diesel fuel that required BOLs for all deliveries. However, the gasoline contract awarded in 2011 and in effect during the course of this follow-up did not require BOLs. In May 2016 the City issued new solicitations for gasoline that required BOLs.

²⁴ La. R.S. 3:4690.

Evaluators found that only 5 percent of the sample (ten invoices) were missing BOLs despite past inconsistencies in the City's fuel contracts and bid solicitations.²⁵ In addition, nearly all sample invoices billed the correct net quantity.²⁶

RECOMMENDATION 5: THE CITY SHOULD INDEPENDENTLY VERIFY FUEL PRICES BEFORE ISSUING PAYMENTS TO VENDORS.

Recommendation Accepted by the City. "Now, the City will make arrangements to subscribe to OPIS in order to access pricing information from them directly so that we may continue our practice of independently verifying fuel prices before making payments to the vendors."

FOLLOW-UP 5: THE CITY ACQUIRED ITS OWN SUBSCRIPTION TO THE OIL PRICE INFORMATION SERVICE IN JANUARY 2016. FUEL VENDORS BILLED THE CORRECT PER-GALLON PRICE FOR FUEL AND MARKUP FEES WERE USUALLY DELINEATED.

The City purchased fuel based on a per-gallon markup fee above the weekly average wholesale price published by the Oil Price Information Service (OPIS).²⁷ In 2013 evaluators found that the City's fuel vendors did not meet requirements to provide independent fuel pricing information generated weekly by OPIS.²⁸

The original report also identified deficiencies in how fuel vendors listed per-gallon prices on invoices. Fuel vendors frequently combined the per-gallon OPIS price with the per-gallon markup fee. Combining these separate costs made it difficult for the City to verify that it was being charged the correct amount for fuel.

A review of invoices submitted during a ten month period in 2012 showed that the City generally paid the correct per-gallon amount for fuel. However, evaluators recommended that the City obtain its own OPIS subscription and independently verify fuel prices before issuing payment. In addition, evaluators

²⁵ The City had a BOL for every invoice in the sample except for ten diesel deliveries. These were all cases in which the fuel carrier, a subcontractor of Petroleum Traders, billed Petroleum Traders for fuel it already had on its trucks. Delivery tickets for six of these ten invoices included a BOL number that would indicate that the fuel originated from a refinery and that a BOL existed. However, the Fuel Services Administrator indicated that Petroleum Traders did not provide BOLs to the City in these circumstances.

²⁶ Neither the City's old or new fuel solicitations stated that the City would only pay for net gallons. In addition, existing contracts were not amended to reflect this requirement.

²⁷ OPIS compiles fuel market data and publishes proprietary benchmarking information for subscribers.

²⁸ Fuel vendors stated they did not share OPIS reports in accordance with the City's contractual requirements because of concerns about copyright infringement.

recommended that the City require fuel vendors to delineate per-gallon costs on invoices.

The City purchased an OPIS subscription in January 2016 and began receiving reports the following month. Evaluators analyzed a random sample of invoices submitted in 2015 to determine whether the City paid the correct per-gallon price for fuel and received delineated cost information. The analysis revealed the following:

- Approximately 2.9 percent of the sample (six invoices) billed an incorrect OPIS price; and
- Approximately 6.4 percent of the sample (13 invoices) did not include delineated per-gallon cost information.

IV. CONCLUSION

In 2013 evaluators provided the City with five recommendations to improve its fuel receiving controls. The first group of recommendations focused on timely and independent verification of fuel deliveries to ensure that number of gallons purchased matched the number of gallons delivered. The remaining recommendations were designed to ensure that the City had effective processes in place to verify that it was paying vendors the correct per-gallon amount for fuel.

Evaluators found that the City made significant improvements to its fuel receiving controls since the OIG released its original 2013 report. The Fuel Services Administrator developed a process to monitor and verify fuel deliveries made to facilities with electronic monitoring devices before issuing payments to vendors. The City also improved its invoice review process to identify billing errors and delineation of pricing information. Moving forward, it is important that the City codify these improved processes in policy and departmental protocols.

However, the City did not resolve its ineffective fuel receiving controls at non-automated sites. Employees at these locations did not manually verify fuel deliveries to ensure that the correct number of gallons was delivered. The City should consider purchasing and installing reasonably priced electronic monitoring devices. Alternatively, the City should officially adopt manual fuel receiving policies and procedures in accordance with best practices outlined by the EPA. These requirements should be clearly communicated to personnel at non-automated sites.

Figure 2. Summary of Follow-up Findings

Recommendation	Accepted	Follow-Up	Met
The City should establish official fuel receiving procedures for facilities with electronic monitoring devices	Yes	The City implemented a process to monitor and verify fuel deliveries made to facilities with electronic monitoring devices before issuing payment.	Yes
The City should install electronic monitoring devices at all fuel facilities.	No	The City did not install electronic monitoring devices at non-automated fueling facilities and fuel receiving processes at these locations remained ineffective.	
The City should review all invoices prior to issuing payment.	Yes	The Fuel Services Administrator developed an invoice review process and nearly all invoices submitted in 2015 included the correct taxes. The City recovered approximately 82 percent of the taxes it overpaid in 2013.	Yes
The City should require all fuel vendors to submit bills of lading with invoices.	Yes	The City's fuel contracts did not consistently communicate requirements related to bills of lading (BOLs); however, the City updated its BOL requirements during the course of this follow-up.	Yes
The City should independently verify fuel prices before issuing payments to vendors.	Yes	The City acquired its own subscription to the Oil Price Information Service in January 2016. Fuel vendors billed the correct per-gallon price for fuel and markup fees were usually delineated.	Yes

APPENDIX A. ACTIVE AUTOMATED CITY OF NEW ORLEANS FUEL FACILITIES²⁹

Location	Storage Capacity
Broad Street Fuel Facility 506 North Broad St.	72,000 gallons gasoline (6 tanks) 36,000 gallons diesel (3 tanks)
New Orleans East Facility 10200 Old Gentilly Rd.	12,000 gallons gasoline 12,000 gallons diesel
Parkway Fuel Facility 2829 Gentilly Blvd.	6,000 gallons gasoline 6,000 gallons diesel
Algiers Fuel Facility 2341 Wall Blvd.	10,000 gallons gasoline 10,000 gallons diesel

²⁹ In addition to this list, the City has five diesel generators with automated tank gauges. The City refills them at least once annually to ensure they are at full capacity during hurricane season.

APPENDIX B. ACTIVE NON-AUTOMATED CITY OF NEW ORLEANS FUEL FACILITIES³⁰

Location	Storage Capacity
NOFD Engine 1 2920 Magazine Street	2,500 gallons diesel
NOFD Engine 6 4550 Old Gentilly Road	500 gallons diesel
NOFD Engine 14 200 South Robertson Street	500 gallons diesel
NOFD Engine 16 2000 MLK Boulevard	500 gallons diesel
NOFD Engine 17 4115 Woodland Drive	500 gallons diesel
NOFD Engine 20 424 Opelousas Avenue	500 gallons diesel
NOFD Engine 24 1040 Poland Avenue	500 gallons diesel
NOFD Engine 25 2430 South Carrolton Avenue	500 gallons diesel
NOFD Engine 31 4300 Alba Road	500 gallons diesel
NOFD Engine 37 13400 Chef Menteur Highway	500 gallons diesel
NOFD Engine 39 5600 N. Claiborne Avenue	500 gallons diesel
Joseph M. Bartholomew Golf Course 6514 Congress Drive	1,000 gallons gasoline (2 tanks)

³⁰ In addition to this list, the City has 118 non-automated generators that can use gas or diesel fuel. The City refills them at least once annually to ensure they are at full capacity during hurricane season.

APPENDIX C. SUMMARY OF BEST PRACTICES FOR FUEL INVENTORY CONTROLS

The United States Environmental Protection Agency (EPA) has developed best practices for fuel inventory verification.³¹ The primary purpose of these guidelines is to safeguard the environment and public health by detecting leaks from underground storage tanks. However, the same guidelines can be used to identify missing fuel due to theft or delivery anomalies. The list below summarizes these best practices and notes which elements are specific to non-automated sites and which also apply to automated fuel sites. The City has already incorporated the relevant practices at its automated facilities. It should now consider establishing a formal fuel receiving policy for all fuel facilities that incorporates these best practices.

- Record daily fuel tank levels by measuring to the nearest 1/8 inch using a ruled stick (“dipstick”) (non-automated);
- Test the tank for water at least monthly (all sites);³²
- In addition to daily measurements, measure the tank to the nearest 1/8 inch prior to each fuel delivery and as soon as the fuel has settled after delivery (non-automated);
- Stop all fuel dispensing during delivery in order to ensure accurate measurement (all sites);

³¹ See the following references for more information: “Storage Tank Release Detection: Best Management Practices for your Underground Storage Tank,” U.S. Environmental Protection Agency, accessed December 15, 2015, <http://www.epa.gov/ust/release-detection-underground-storage-tanks-usts>; “Introduction to Statistical Inventory Reconciliation for Underground Storage Tanks,” U.S. Environmental Protection Agency, accessed December 15, 2015, <http://www.epa.gov/ust/introduction-statistical-inventory-reconciliation-underground-storage-tanks>; “Doing Inventory Control Right for Underground Storage Tanks,” U.S. Environmental Protection Agency, accessed December 15, 2015, <http://www.epa.gov/ust/doing-inventory-control-right-underground-storage-tanks>; U.S. Government Accounting Office, *Need for Tighter Controls Over Fuel Purchased by the Postal Service*, (Washington, D.C., 1980), accessed July 27, 2016, <http://www.gao.gov/products/GGD-80-75>; Maine Department of Environmental Protection, *TankSmart, Maine’s Class A/B UST System Operator Training Manual, Module 11: Daily Inventory & Statistical Inventory Analysis*, (Maine, by Petroleum Training Solutions and Enosis-The Environmental Outreach Group), accessed July 27, 2016, <http://www.maine.gov/dep/waste/tanksmart/operatormanual.html>; and Knight, Cheryl, “How to Perform a Fuel Reconciliation,” *Government Fleet*, July 2010, accessed July 27, 2016, <http://www.government-fleet.com/article/story/2010/07/how-to-perform-a-fuel-reconciliation.aspx>.

³² Excessive amounts of water in fuel tanks can cause corrosion and damage vehicles.

- Convert dipstick measurements to gallons using the correct conversion chart for the tank, which should list gallons per 1/8 inch measurement (non-automated);
- Record fuel dispensing data (all sites);
- Calculate daily variances (all sites); and
- Reconcile tank inventory monthly (all sites).

Adhering to fuel inventory best practices allows tank operators to detect and locate the source of inventory anomalies. In addition to measuring the fuel in the tank, it is important for staff to witness fuel delivery in order to verify that the delivery truck's meter provides a similar reading and that the amount written on the delivery ticket is correct.