



Memorandum



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To: The Honorable Carlos A. Gimenez, Mayor, Miami-Dade County
The Honorable Audrey M. Edmonson, Chairwoman
and Members, Board of County Commissioners, Miami-Dade County

From: Mary T. Cagle, Inspector General 

Date: January 27, 2020

Subject: OIG Final Inspection Report Re: *Inspection of the Internal Services Department's Refrigerant Usage and Controls*, Ref. IG18-0004-A

Attached please find the above-captioned final inspection report issued by the Office of the Inspector General (OIG). The inspection reviewed the Internal Service Department's (ISD) Heating, Ventilation and Air Conditioning (HVAC) Shop's procurement, physical control, usage and tracking of refrigerant, as well as inter-departmental billings for service orders involving refrigerant. In addition, we reviewed the HVAC Shop's compliance with County ordinances and administrative rules, and the Department's internal policies and procedures. The HVAC Shop is one of four shops within ISD's Renovations Services Section, which is part of ISD's Facilities and Utilities Management Division, providing support services to other County departments and overall County operations.

This Final Inspection Report contains two findings and six recommendations. All of the recommendations have been accepted by ISD and their response is included in the Final Inspection Report as Appendix A. The OIG requests that ISD provide this Office with a 90-day status report on or before April 27, 2020, regarding the implementation of the recommendations addressed in this report.

The OIG would like to thank the ISD staff for their cooperation and for the courtesies extended to the OIG throughout this inspection.

For your reading convenience, an Executive Summary follows.

Attachment

cc: Edward Marquez, Deputy Mayor, Miami-Dade County
Tara C. Smith, Director, ISD, Miami-Dade County
Jacques Bentolila, Assistant Director, ISD, Miami-Dade County
Cathy Jackson, Director, Miami-Dade Audit and Management Services Department
Yinka Majekodunmi, Commission Auditor, Office of the Commission Auditor

OIG EXECUTIVE SUMMARY

Inspection of the Internal Services Department's Refrigerant Usage and Controls

The Miami-Dade County Office of the Inspector General (OIG) conducted an inspection of the usage and controls pertaining to air conditioning refrigerant at the Internal Services Department's (ISD), Heating, Ventilation, and Air Conditioning (HVAC) Shop. The OIG inspection was predicated on an anonymous complaint alleging losses of refrigerant from the HVAC Shop valued at between \$150,000 and \$300,000 annually. The allegation was not substantiated. The inspection reviewed the procurement, physical control, usage and tracking of refrigerant, as well as inter-departmental billings for service orders involving refrigerant. In addition, we reviewed the HVAC Shop's compliance with County ordinances and administrative rules, and the Department's internal policies and procedures.

The report contains two findings that come directly from our testing of 100% of the refrigerant service requests made by county departments to the HVAC Shop, during the review period of January 1, 2016 through August 31, 2018. Additionally, the findings address refrigerant purchases, inventory, and inter-departmental billings, maintained in the AS 400 data management system used by the HVAC Shop. The report also contains six recommendations.

Finding 1 addresses the HVAC Shop's weak to non-existent policies and procedures and internal controls pertaining to the tracking and use of refrigerants. It also addresses our concern over the proper completion, usage, and retainage of the HVAC Stock Requisition and the Product Release and Log Control Forms, as well as the failure to follow the policies, procedures, and controls that did exist. Our inspection revealed that the lack of functioning internal controls concerning refrigerants, and non-compliance with those controls that did exist, together with inadequate management oversight and the lack of hands-on direction, affected all the key functions of receiving, usage, and billing of refrigerant.

The OIG recommends amending and revising the existing policies and procedures and creation of new ones where necessary; providing formal training on completing required forms and holding personnel accountable for proper completion of the forms; instituting a quality assurance process; and setting timelines for when service request and work order information is to be entered and closed in AS 400. ISD acknowledged the deficiencies addressed and stated it is amending its policies and procedures, updating its forms, providing necessary training and instituting quality assurance reviews, to assure the policies and procedures are being followed.

Finding 2 addresses how data input errors made in AS 400 affected inventory accountability and inter-departmental billings to county departments using HVAC Shop services. The data input errors and flawed data resulting from Product Release and Log Control Forms recreated from memory, after-the-fact, caused county user departments to be under-billed and over-billed, on different occasions, for refrigerant usage. Also, we addressed how these errors and flawed data caused incorrect levels of inventory to be reflected in AS 400, which did not correspond to the actual inventory on hand.

The OIG recommends establishing standards for the entry and supervisory review of data entered in AS 400, as well as utilization of the functionality built into AS 400 to generate alerts when inventory decreases or increases beyond an established threshold. ISD stated that it is requesting an additional position to address the immediate need for process improvement and that management will ensure the proper logging of refrigerant for entry into AS 400. In addition, ISD has created a new Compliance Unit that will perform random reviews to assure compliance with the newly established policies and procedures.

The OIG requests that ISD provide this Office with a 90-day status report on or before April 27, 2020, regarding the implementation of the recommendations addressed in the report.

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OFFICE OF THE INSPECTOR GENERAL



FINAL INSPECTION REPORT
IG18-0004-A

Inspection of the Internal Services Department's Refrigerant Usage and Controls

January 27, 2020

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I. INTRODUCTION

The Miami-Dade County Office of the Inspector General (OIG) conducted an inspection of the usage and controls pertaining to air conditioning refrigerant at the Internal Services Department's (ISD), Renovations Services Section's (RSS) Heating, Ventilation, and Air Conditioning (HVAC) Shop. The OIG inspection was predicated on an anonymous complaint alleging losses of refrigerant from the HVAC Shop valued at between \$150,000 and \$300,000 annually. The allegation was not substantiated. The inspection reviewed the procurement, physical control, usage and tracking of refrigerant, as well as inter-departmental billings for service orders involving refrigerant. In addition, we reviewed the HVAC Shop's compliance with County ordinances and administrative rules, and the Department's internal policies and procedures (P&P).

II. RESULTS SUMMARY

This report contains two findings and six recommendations. The findings come directly from our testing of 100% of the refrigerant service requests made by County departments to the RSS HVAC Shop, during the review period of January 1, 2016 through August 31, 2018. Additionally, the findings address our testing of the data, including refrigerant purchases, inventory, and inter-departmental billings, maintained in the AS 400 data management system used by the RSS HVAC Shop.

Finding 1 addresses the RSS HVAC Shop's weak to non-existent P&P and internal controls pertaining to the tracking and use of refrigerants. It also addresses our concern over the proper completion, usage, and retainage of the HVAC Stock Requisition (SR) and the Product Release and Log Control (PR&LC) Forms, as well as the failure to follow the P&P and controls that did exist. Our inspection revealed that the lack of functioning internal controls concerning refrigerants, and non-compliance with those controls that did exist, together with inadequate management oversight and the lack of hands-on direction, affected all the key functions of receiving, usage, and billing of refrigerant. For example, 69% of the PR&LC Forms lacked a service address; 75% lacked a service date; and 63% failed to include the amount of refrigerant used on a service call. Management was aware the HVAC Mechanics were not completing these forms, so they relied on the AS 400 input person to recreate refrigerant usage after-the-fact, based on the mechanics' recollection and estimates. The PR&LC Forms are the key source document for entry of refrigerant usage in AS 400 and to determine the amounts to be charged to user departments.

Finding 2 addresses how data input errors made in AS 400 affected inventory accountability and inter-departmental billings to County departments using RSS HVAC Shop services. Data input errors into AS 400 and flawed data resulting from the recreated PR&LC Forms, caused County user departments to be under-billed and over-billed, on different occasions, for refrigerant usage. In addition, we addressed how these errors and flawed data caused incorrect levels of inventory to be reflected in AS 400, which did not correspond to the actual inventory on hand.

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Among the key recommendations set forth in this report are that the HVAC Supervisor hold the HVAC Mechanics accountable for timely and accurately completing the PR&LC Forms; that a quality assurance process overseen by the RSS Manager be instituted and used to confirm the HVAC Supervisor and HVAC Mechanics are meeting their responsibilities; and policies requiring refrigerant inventory received to be documented and promptly entered in AS 400, service order/work order information to also be entered in AS 400 within a specified period-of-time, and supervisory review of data entered in AS 400.

III. ISD'S RESPONSE

This report, as a draft, was provided to ISD for its review and comment. ISD's response is included in this report as Appendix A. ISD affirmed its commitment to comply with the recommendations posited by the OIG and responded positively to each recommendation indicating either that it will prospectively implement our suggestions or has already taken steps in the direction of our recommendations.

Further summation of ISD's response is located in the body of the report at the end of each related finding and recommendations.

IV. TERMS USED IN THIS REPORT

ADPICS	Advance Purchasing & Inventory Control System
AS 400	ISD's AS 400 System
Buyer	RSS Buyer
County	Miami-Dade County
FUMD	Facilities and Utilities Management Division
HVAC	Heating, Ventilation and Air Conditioning
ISD	Internal Services Department
MSS	Maintenance Shop Supervisor
OIG	Office of the Inspector General
P&P	RSS Stockroom Refrigerants, Procurement and Handling Guidelines
PR&LC	Product Release & Log Control Form
RSS	ISD Renovation Services Section
SR Form	HVAC Stock Requisition Form
Stock Clerk	HVAC Stock Clerk

V. OIG JURISDICTIONAL AUTHORITY

In accordance with Section 2-1076 of the Code of Miami-Dade County, the Inspector General has the authority to make investigations of County affairs; audit, inspect and review past, present and proposed County programs, accounts, records, contracts, and transactions; conduct reviews and audits of County departments, offices, agencies, and boards; and require reports from County officials and employees, including the Mayor, regarding any matter within the jurisdiction of the Inspector General.

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VI. BACKGROUND

A. The HVAC Shop

ISD provides support services to other County departments and overall County operations. It also manages and maintains County-operated facilities through its Facilities and Utilities Management Division (FUMD). The Renovation Services Section (RSS) is a component of FUMD and is responsible for renovations. It is overseen by the RSS Manager. RSS consists four shops providing services to County facilities, including the Heating and Air Conditioning (HVAC) Shop, as well as the plumbing, carpentry, and electrical shops. It also has an administrative contracts and purchasing unit. RSS is located at 3501 NW 46 Street in Miami.

The HVAC Shop provides services to all County departments, with the exception of the Water & Sewer Department, Aviation Department, PortMiami, and the Department of Transportation and Public Works. It employs one HVAC Supervisor, one Lead Worker/Mechanic, a Stock Clerk, seven HVAC Mechanics, and two temporary employees who assist the HVAC Mechanics.

A requirement of employment for all HVAC Mechanics is a certificate of competency as a Journeyman in refrigeration and air conditioning, as well as a Refrigerant Transition and Recovery Certification from an authorized United States Environmental Protection Agency (EPA) certification program. Our inspection showed that at the time of our fieldwork, all of the HVAC Mechanics held both required certifications.

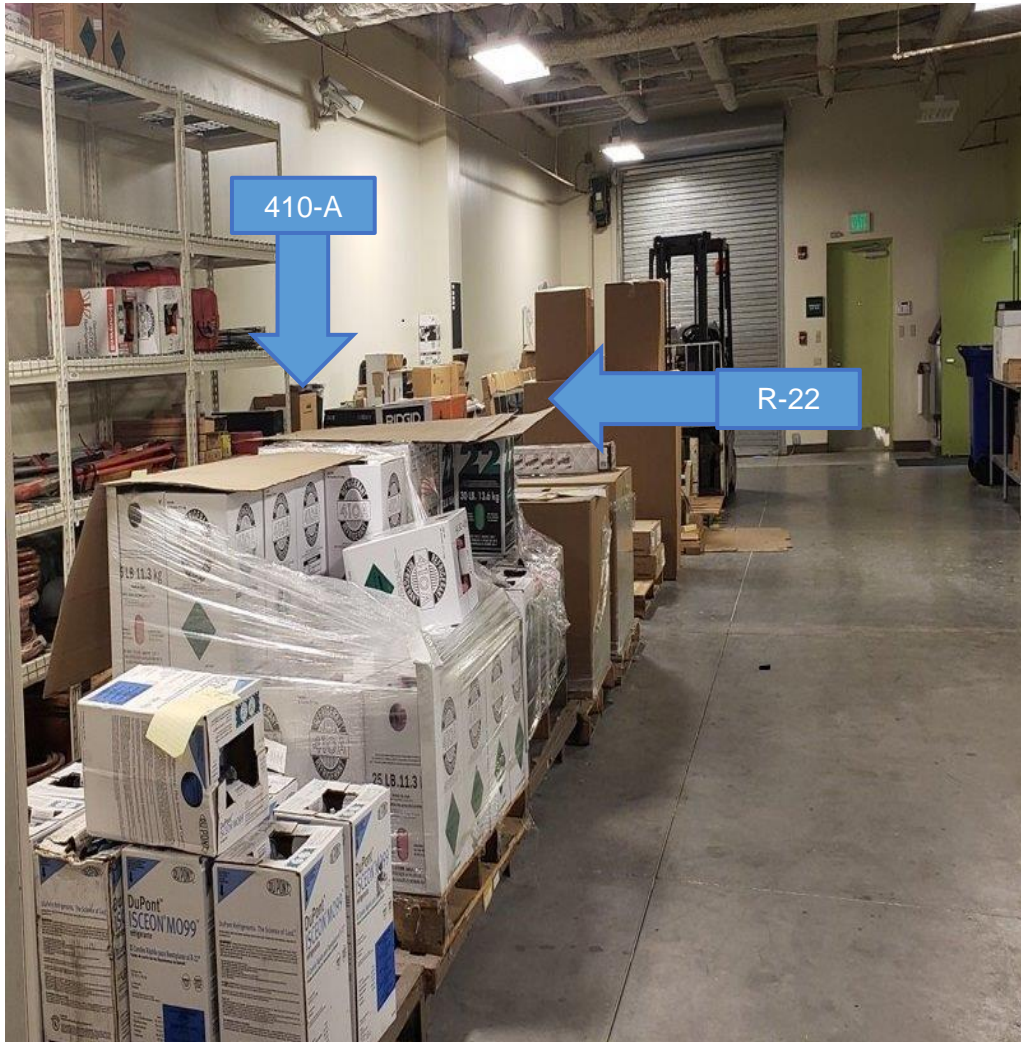
B. Refrigerant Procurement

A principal commodity regularly procured and used by the HVAC Shop is refrigerant. In accordance with industry standards, refrigerant is measured by weight in pounds. The most common types of refrigerant are R-22, which is sold in 30 pound tanks, and 410-A, which is sold in 25 pound tanks. Each palette of these refrigerants contains 40 tanks. The County tracks and charges user departments for refrigerant by weight in pounds.

When more refrigerant is needed by the HVAC Shop, a request is sent to the RSS Buyer (Buyer) to initiate the procurement process. The Buyer then sends a request for quote, via email, to a previously approved pool of vendors. After the vendors submit their bids, the vendor with the lowest responsive bid is selected. The Buyer remits all bids and supporting documentation, including the winning bid, to the RSS Manager for retention. The winning vendor is then notified of the award by the Buyer and a purchase order is submitted and approved by the RSS Manager. The procurement information is documented in the Advance Purchasing & Inventory Control System (ADPICS). The refrigerant is subsequently delivered to the RSS warehouse, where the HVAC Stock Clerk (Stock Clerk) is tasked with receiving the refrigerant and manually numbering each tank for tracking/inventory purposes. According to interviews conducted during our inspection, we learned the HVAC Lead

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Worker and the Maintenance Shop Supervisor¹ (MSS) may also receive refrigerant. Additionally, the HVAC Shop does not retain documentation (e.g. delivery tickets) concerning its receipt of refrigerant. The refrigerant received is kept on the warehouse floor by the exit door as seen below.



The OIG auditors ascertained the quantities and cost of refrigerant procured by the HVAC Shop during the period from January 1, 2016 through August 31, 2018 (the review period). The Buyer provided supporting documentation including requests for quote, quotes/bids received, and the notices of award. The information provided by the Buyer disclosed that five refrigerant purchases were made during that period. (See Table 1 for all purchases of refrigerant made during the review period.)

¹ The MSS is not organizationally in the HVAC Shop. He is assigned to the Carpentry Shop. But, as seen throughout this report, he performs various functions for the HVAC Shop.

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Table 1 - Refrigerant Purchases for RSS HVAC Shop

Purchase Order Date	Purchase Order Number	Refrigerant Type	Transaction Quantity in Pounds (lbs.)	Transaction Amount
07/18/16	PO#1608836	R-22	1,200	\$23,688
10/28/16	PO#1700723	410-A	1,000	\$3,600
08/08/17	PO#1711319	R-22	1,200	\$20,400
01/29/18	PO#1804439	410-A	1,000	\$3,680
07/27/18	PO#1812041	R-22	1,200	\$14,360
Total	-	-	5,600	\$65,728

The OIG auditors reviewed the procurement documents as well as the information maintained in ADPICS to confirm the purchases made during that period. All refrigerant purchases made during the review period were made in accordance with the contract's roadmap requirements, without exception.² Further, the auditors verified, through ADPICS, that the five refrigerant purchases were made during the review period and that the vendors were compensated for each procurement transaction.

C. AS 400 Data Management System

RSS uses the County's AS 400 data management system (AS 400). This system has various capabilities including tracking inventory, valuing inventory, tracking asset usage, and making inter-departmental billings for services rendered. Relevant information maintained in AS 400 includes the purchase price of the refrigerant, which establishes the cost that will be charged to user departments, as well as the quantity of refrigerant consumed by user County departments. The information is entered in AS 400 by an authorized individual and the reliability of that data is dependent upon the accuracy of the information entered. At the time of the OIG's inspection, the MSS was the person tasked with entering in AS 400 all relevant information pertaining to the purchase/receipt of refrigerant, as well as the amounts of refrigerant used on service calls by HVAC Mechanics.

D. Process for Use of HVAC Shop Services

County departments that utilize HVAC Shop services submit an online request for service using the County's Design Construction Service Division Work Order System. The system generates a unique service request number that includes the location and contact information for where the service is being requested. The HVAC Supervisor reviews the request and determines the priority of the service request. Emergency requests take priority over other HVAC Shop requests.

² A roadmap is a high-level summary of the Buyer's responsibility for exercising the contract.

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VII. OBJECTIVES, SCOPE, AND METHODOLOGY

A. Objectives

The objectives of this inspection were to determine whether the RSS HVAC Shop's internal controls applicable to the procurement, receipt, physical control, usage, and tracking of refrigerant were adequate; the extent of compliance with such controls; and the effect of these factors on the charges billed to other County departments for service orders involving refrigerants.

B. Scope

Originally, the OIG judgmentally selected a sample size of 50 refrigerant service requests out of 88 service requests covering the period of August 31, 2017 through August 31, 2018, for testing.³ Due to the high error rates observed in that original sample, the OIG expanded its testing to encompass 100% of all refrigerant service requests for the period of January 1, 2016 through August 31, 2018 (the review period), which totaled 157 service requests. Additionally, due to over-billing and under-billing errors discovered during our review of refrigerant billings to County departments in AS 400, we extended our review of those billings to the period of September 1, 2018 through June 30, 2019, as discussed in Finding 2, at page 19 of this report.

The operations reviewed during the inspection covered the following:

- Procurement of the refrigerant by utilizing County pool contract #1046-1/21;
- The RSS warehouse/HVAC Shop receipt of the refrigerant and documentation thereof;
- The process for stocking and tracking of the refrigerant after receipt;
- The process for issuance of refrigerant tanks to HVAC Mechanics;
- The process for tracking and billing of refrigerant used on work orders; and
- The process for accounting for, and final disposition of, empty refrigerant tanks.

C. Methodology

In addition to our testing of refrigerant service requests, the OIG initially interviewed the RSS Manager and requested and reviewed a copy of the HVAC Shop's policies and procedures (P&P) concerning Refrigerant Procurement and Handling. (Exhibit 1) Additionally, we reviewed the quality of controls over the HVAC Shop. A detailed review of the refrigerant life cycle, from the purchase of the refrigerant tanks, to their issuance, use and billing therefore, as well as their ultimate physical disposition, was conducted to understand the processes. In that regard, we identified and evaluated the RSS

³ The 50 service requests were selected from Product Release and Log Control Forms, PR&LC Forms, representing all 88 service requests for that 12-month period, where refrigerant was used in jobs completed for County departments.

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management controls over the process to procure, use, and dispose of both the refrigerant and their tank containers. For each process identified, we assessed the overall effectiveness of the existing control by conducting interviews of RSS purchasing personnel, AS 400 specialists, the person tasked with AS 400 input responsibilities (the MSS), the HVAC Supervisor, HVAC Mechanics and HVAC Shop personnel. Our review also included physical observation of HVAC Shop operations and fieldwork testing. Finally, we conducted a walk-through of AS 400 for purposes of tracking refrigerant usage and inter-departmental billing. In order to verify the accuracy of the data, we reviewed original documentation, including forms used by the HVAC Shop, against the data contained in AS 400.

This inspection was conducted in accordance with the Principles and Standards for Offices of Inspector General promulgated by the Association of Inspectors General.

VIII. OIG FINDINGS AND RECOMMENDATIONS

FINDING 1. Internal controls, as well as management oversight, related to key aspects of refrigerant inventory, use, tracking, and the billing of user departments, are inadequate or non-existent.

The HVAC Shop's existing P&P are weak to non-existent. They fall far short in providing guidance to employees on how to complete their job responsibilities, including how to complete key forms used by the Shop and relied on by management for data input and inter-departmental billing. Additionally, HVAC Shop management, including the RSS Manager, did not exercise adequate oversight over the HVAC Shop's key personnel, including the HVAC Mechanics and personnel involved in the process of receiving and accounting for refrigerants, to assure compliance with the limited P&P that did exist. These deficiencies signaled managerial indifference to compliance with the existing controls. They also resulted in the inability to adequately document the receipt of refrigerant, track its usage, and accurately input inventory, including cost information, into AS 400, affecting the accuracy of inter-departmental billings. Additionally, the HVAC Shop did not close work orders in a timely manner, after the unique service request was completed. This resulted in some work orders remaining open for an extended period-of-time, as much as 288 days, and instances where multiple service requests were improperly billed to an open work order. A further deficiency existed because of confusion concerning the process for disposal of empty refrigerant tanks.

Internal controls are a framework that establish protocols for the day-to-day operation of an entity. Functioning internal controls serve to deter losses, as well as unauthorized use of an organization's assets. Because refrigerant is a gas, it is not a tangible asset, except for the tank containing it. Documenting the receipt of each refrigerant tank, and tracking its custody and movement, is the only mechanism that enables the HVAC Shop to ensure that this non-tangible asset is properly accounted for and used at authorized County facilities. In order to adequately track a refrigerant tank and

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its contents, comprehensive well written P&P are needed, as a starting point, for stating an expectation of what needs to be done and how it is to be done. Additionally, adequate training and hands-on supervision are necessary to assure compliance with such P&P and controls over refrigerants.

The P&P set forth in the “Renovation Services Section Stockroom Refrigerants Procurement and Handling Guidelines” (Exhibit 1), are incomplete and do not provide adequate direction regarding the accountability for and usage of refrigerant.⁴ The P&P assign specific roles and responsibilities to individuals in specified HVAC Shop positions. However, they do not sufficiently address the key forms used by the HVAC Shop to track the custody and accountability for refrigerant, namely the HVAC Stock Requisition Form (SR Form), and the Product Release and Log Control Form (PR&LC Form), respectively. Specifically, the P&P do not provide sufficient guidance about how the PR&LC Form is to be completed, by whom, and how this form should be utilized to regularly account for refrigerant use, and be maintained as the source document for AS 400 entry and inter-departmental billing purposes.

The SR Form (Exhibit 2) is used to assign a specific refrigerant tank, of either R-22 or 410-A, to an HVAC Mechanic. It is a pre-printed form that must be completed and executed by the HVAC Supervisor or Lead Worker at the time that a service request is received. The SR Form authorizes the removal of a refrigerant tank from inventory to be used for a work order. It is supposed to contain a work order or service ticket number (at the “W.O./S.T.#” column on the form), and the name of the HVAC Mechanic requesting the refrigerant. The SR Form requires that the Stock Clerk write the tank number and initial the form before releasing the refrigerant tank to the HVAC Mechanic. The P&P generally describes the purpose and use of the SR Form; however, contrary to the description of the form in the P&P, it does not contain a column/space for entry of the service address where the assigned refrigerant is to be used.⁵

According to interviews conducted during the OIG inspection, the PR&LC Form (Exhibit 3) is used to track the quantity and usage of refrigerant at one or more service request locations. The HVAC Mechanics are tasked with recording relevant information on the PR&LC Form, such as the date, pounds of refrigerant used (per service order), service request/work order number, service address, and supervisor approval. As refrigerant from the tank is used during a work order, the pounds of refrigerant used per work order are supposed to be recorded on the form, until the total amount used reflects that the tank is

⁴ The RSS P&P are neither dated nor signed and there is no documentation demonstrating that the P&P were distributed to HVAC Shop employees.

⁵ The absence of a space for the service address on the SR Form is a likely explanation of why, as detailed in Table 2, 125 out of the 128 SR Forms reviewed (representing 100% of such forms for the review period) lacked a service address.

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empty. Additionally, the HVAC Mechanics are responsible for completing the PR&LC Form in a timely manner.

As distinguished from the more detailed P&P concerning the SR Form, the P&P concerning the PR&LC Form merely provide that this form “itemize the different service tickets and locations where that tank of refrigerant will be used”, without any further instruction. There are no procedures detailing how the form should be completed, by whom, or when. There are no procedures detailing the key role played by this form in tracking the use of refrigerant at a particular service location, for a particular County department, or explaining that these forms are a key source document for entering information into AS 400, thus affecting inventory and the accuracy of inter-departmental billings. Additionally, while the P&P for this form and the information provided during interviews indicated that service location was required to be entered on the form, the PR&LC Form, like the SR Form, provided no specified column/space for entry of a service address.

Nonetheless, despite this absence of adequate P&P concerning the PR&LC Form, through interviews conducted during our inspection, it was determined the HVAC Mechanics were previously provided with all the training necessary to accurately complete the PR&LC Forms. Additionally, during interviews, all HVAC Mechanics likewise informed the OIG they had been trained on how to complete the forms. Further, all HVAC Mechanics have scales in their trucks, which are to be used to weigh the tank before, and after, completing a service request, for purposes of determining the amount of refrigerant used at each service call location.

Stock Requisition Form Testing

OIG auditors reviewed 100% of all SR Forms for the period January 1, 2016 through August 30, 2018, which consisted of 128 SR Forms. The review showed that 26 (20%) did not contain the work order number, 125 (98%) did not contain the address where the refrigerant was used, 2 (1.6%) were not approved by an HVAC Supervisor or Lead Worker, and 9 (7%) were not initialed by the Stock Clerk prior to releasing the refrigerant tank. Results of our SR Form testing appear in Table 2.

Table 2 – Analysis of Information on Stock Requisition Form (SR Forms)

Results	Service Ticket Number	Service Address	Approved by Supervisor or Lead Worker	Initialed By Stock Clerk
Yes	102	3	126	119
No	26	125	2	9
Total	128	128	128	128
Error Rate	20%	98%	1.6%	7%

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Product Release and Log Control Form Testing

OIG auditors reviewed 100% of all PR&LC Forms for the period January 1, 2016 through August 30, 2018, which consisted of 157 PR&LC Forms. The review showed that 97 (62%) did not contain the service ticket number, 109 (69%) did not contain the address where the refrigerant was used, 22 (14%) did not have documented approval by an HVAC Supervisor or Lead Worker as required by policy, 117 (75%) did not contain the service date, and 99 (63%) did not contain the amount of refrigerant used. Results of our testing appear in Table 3.

Table 3 – Analysis of Product Release & Log Control Forms (PR&LC Forms)

Results	Service Ticket Number	Service Address	Approved By Supervisor or Lead Worker	Service Date	Amount of Refrigerant Used
Yes	60	48	135	40	58
No	97	109	22	117	99
Total	157	157	157	157	157
Error Rate	62%	69%	14%	75%	63%

As demonstrated in Tables 2 and 3, important information required to ascertain both the quantity of refrigerant used on a service call, as well as the location where the work was done, were consistently omitted from the SR and PR&LC Forms.⁶ Testing results revealed that 63% of the PR&LC Forms did not contain the quantity of refrigerant used on jobs. The RSS Manager stated that, absent other reliable information, this would effectively imply the HVAC Mechanic used the entire tank of refrigerant on that particular service call, although the specific service call(s) attended to would remain unidentified. While as previously stated, the HVAC Mechanics acknowledged receiving training on how to properly fill out the forms, the alarming error rates found and set forth in Table 3, reveal a concerning pattern of disregard for accurately completing the PR&LC Forms.

Additionally, the interviews of the HVAC Mechanics revealed that they did not generally complete the PR&LC Forms contemporaneously. Especially the information as to the service address and the amount of refrigerant used, which was generally added by someone else, after-the-fact. For instance, when shown completed PR&LC Forms containing amounts for the quantity of refrigerant used and a service address, the HVAC Mechanics said the handwriting used to enter that information was not their handwriting.⁷ Nonetheless, HVAC Shop management regularly accepted the incomplete PR&LC Forms, and the HVAC Mechanics were not held accountable for submitting incomplete forms. This

⁶ As previously noted, despite the P&P for these forms referencing a service location, neither form contained a specified space or column for a service address.

⁷ Our inspection revealed the handwritten entries were generally being made by the MSS.

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practice of condoning the submission of incomplete PR&LC Forms, and allowing for the after-the-fact entry of the missing data, lends credence and foundation to the identified error rates, which also affected the reliability of data later entered in AS 400.

Inadequate Record-keeping System Concerning SR and PR&LC Forms

Another area of importance that is not addressed by the P&P is the process for organization and record-keeping of the SR and PR&LC Forms. During our fieldwork, we requested to see all completed forms for the period under inspection, as these forms are the only corroborating evidence that exists to provide assurance that the data in AS 400 is sufficiently reliable. The RSS Manager provided three folders that were supposed to contain all such forms. The forms were stapled together, based on the date the service occurred, and the folders were for the calendar years 2016, 2017, and 2018. Throughout the inspection, OIG auditors were sporadically provided with additional SR and PR&LC Forms by both the MSS and the Stock Clerk, not included in the files previously provided. Fieldwork site visits revealed that the record-keeping system for the completed forms was not maintained in a readily accessible manner.

Data Entry for Inventory Tracking and Inter-Departmental Billing

The Maintenance Shop Supervisor (MSS) is the individual tasked with inputting the data garnered from the PR&LC Forms into AS 400 for inventory tracking and inter-departmental billing purposes. During an interview with the MSS, who has been assigned this task since 2017, he stated that incomplete PR&LC Forms cause him to meet regularly with the HVAC Supervisor and the individual HVAC Mechanics, to ascertain from their recall, what work locations they visited and how many pounds of refrigerant were used at each location. This explains why many of the PR&LC Forms contained the MSS's handwriting, including entries for pounds of refrigerant used to complete specified work orders, at specified service locations. However, a process where the MSS has to rely, sometimes after-the-fact, on the recollection of individual HVAC Mechanics, as to where a service call took place and the quantity of refrigerant used on that job, is not a reliable means of securing accurate information. It creates a high probability of errors and raises questions about the validity of the data input into AS 400, as well as the amounts billed to the various user departments. The fact that this process of reconstructing refrigerant use became the norm and was carried out with the knowledge of the HVAC Supervisor, signaled managerial indifference regarding the accurate and timely completion of the PR&LC Forms by the HVAC Mechanics. Their non-compliance with existing P&P was essentially condoned, while the burden of tracking refrigerant use was improperly shifted to the MSS.

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Absence of Procedures to Document Refrigerant Deliveries

The P&P do not effectively address how to account for and document the receipt of refrigerant deliveries to the HVAC Shop. Even a rudimentary process of maintaining a copy of the delivery ticket and/or shipment invoice was not observed.

For the review period, from January 2016 through August 31, 2018, a total of five shipments of refrigerant were procured and delivered to the RSS warehouse, as verified by procurement and vendor records reviewed during our inspection. These five shipments consisted of a total of 5,600 pounds of refrigerant, at a total cost of \$65,728. During our fieldwork we requested documentation regarding the delivery of refrigerant to the RSS warehouse/HVAC Shop, but were provided with none. Instead, through interviews we ascertained that at the time of delivery, the shipment of refrigerant is counted and the tanks numbered, but there is no record or paperwork retained on file to document that this was done.

Specifically, the OIG auditors interviewed the Stock Clerk regarding the process used to receive refrigerant at the RSS warehouse. The Stock Clerk explained that refrigerant is delivered to the RSS warehouse/HVAC Shop, where it could be received by himself, the Lead Worker or the MSS. The MSS explained that he also verifies the refrigerant received and inputs the type, quantity and cost of the refrigerant into AS 400. This resets the total inventory on hand, as well as the cost per pound for departmental billing purposes. The Stock Clerk confirmed neither he nor the others receiving a delivery keeps a documentary record of the delivery. Additionally, there is no ISD generated document to record what was received at the time of delivery, and the information inputted into AS 400 by the MSS is not verified by anyone else for completeness and accuracy. That is, there is no managerial oversight over the AS 400 input function performed by the MSS.

Disposal of Empty Refrigerant Tanks

Based on inconsistent information provided to OIG auditors concerning the procedure for disposing of empty refrigerant tanks, the disposal process remains an issue of potential concern.⁸ Specifically, at the inception of this inspection, we were verbally informed that the disposal of an empty refrigerant tank involves an HVAC Mechanic first determining if a particular tank is empty, then punching a hole in the empty tank, throwing the tank into a recycle dumpster located at the RSS warehouse, and then informing the Stock Clerk of the tank's disposal. During a subsequent interview, we were told the procedure involves the HVAC Mechanic providing the Stock Clerk with an empty refrigerant tank along with a completed SR Form, signed by the HVAC Supervisor or Lead Worker,

⁸ The EPA has promulgated policies and procedures for the disposal of air conditioning gasses contained inside of an air conditioning unit when it is retired but not for the disposal of supply tanks.

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authorizing the release of a new refrigerant tank. The Stock Clerk weighs the tank to ensure that it is empty, initials the SR Form as confirmation that an empty tank was received, and then issues a new tank to the HVAC Mechanic. The Stock Clerk then punches a hole in the empty tank and places it into a dumpster at the RSS warehouse. Later, during our inspection fieldwork, we were provided with a copy of the written P&P concerning refrigerant tank disposal, which conflicts with some of the original information provided to us.

As detailed in the P&P (Exhibit 1), "all refrigerant tanks must be returned to the stockroom empty, with issued paperwork and recorded itemized use; the stockroom clerk compares the returned stockroom requisition form to the original one that was issued with the tank; and [the] empty tanks are perforated, so they can't be re-used and disposed of accordingly by the stockroom clerk." Since the proper functioning of the disposal process, as stated in the P&P, is interrelated with the proper completion of the SR and PR&LC Forms to establish custody and record itemized use of the refrigerant, the existing situation involving incomplete SR Forms not reflecting a service location, and PR&LC Forms neither reflecting a service location nor itemizing refrigerant use, is problematic. Additionally, based on the conflicting information provided to us, it appears HVAC Shop personnel may not be properly informed as to the existing P&P, or not fully complying with it. For instance, new refrigerant tanks continue to be issued to replace empty tanks, despite the prevalence of incomplete SR and PR&LC Forms. As no log is maintained for the retired, empty numbered tanks that are being disposed of, conflicts and/or non-compliance with the tank disposal process creates an opportunity for refrigerant losses and/or theft.

Failure to timely Close Work Orders after Completion of Unique Service Requests

During the inspection we reviewed service request and work order information in AS 400 (covering the period from July 18, 2016 through December 3, 2018). Our review revealed that 22 out of 111 work orders, or approximately 20%, included more than one unique service request, and remained open, on average, 81 days. Specifically, those 22 work orders included from 2 to 6 subsequent and unrelated service requests in the same work order, when the work order should have been closed when the original unique service request was completed. This practice results in inaccurate billings to user departments for different unique service requests that are nonetheless included in the same work order.

When a work order is created in AS 400 (as a result of a unique service request received by the HVAC Shop), it receives a work order number. Then, the HVAC Shop provides the required resources, including the services of the HVAC Mechanic, and supplies any refrigerant necessary to complete the job. The costs of those resources used in completing that service request, are supposed to be allocated to the work order corresponding to that unique service request. The work order should then be closed, as the unique service request has been completed.

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The aforementioned P&P (Exhibit 1) do not describe the procedure for opening and closing work orders; nor do they describe the procedure for inter-departmental billing. However, even without a specific written procedure, there would appear to be no rational reason for that work order to remain open for any extended period-of-time. From a practical perspective, our inspection did reveal that the MSS, who was the person tasked with entering data into AS 400, sometimes became backlogged in handling those responsibilities. Among the factors contributing to that backlog was the common occurrence of inaccurate and incomplete PR&LC Forms, which required the MSS to meet with HVAC Mechanics, sometimes well after the service request had been completed, to somehow reconstruct the amount of refrigerant to be charged to each work order. Additionally, the MSS was tasked with the AS 400 data entry function in addition to having to perform his regular duties in another division of the RSS warehouse. During those backlog periods, additional service requests, sometimes originating from the same County departments making an original service request that had not been closed on AS 400, would come in. The existence of these conditions is what allowed subsequent service requests to be billed to already open work orders. Had the completed work orders been timely closed, this erroneous billing could not have occurred and the work would have been matched to the proper work order number.

The allocation of refrigerant and other service costs, from a subsequent unique service request, to a pre-existing work order associated with another unique service request and location, is a practice that should not be happening. It results in inaccurate and misleading cost allocations to user departments. Table 4 highlights 7 out of the 22 work orders that remained open for the longest time period, and which included from 2 to 6 service requests in the same work order.

Table 4 – Work Orders Not Closed for an Extended Period

Work Order Number*	Total Number of Days Work Order is Opened	Number of Service Requests Billed
S150452	288	4
E160213	245	2
E161393	201	2
E170399	193	2
E161429	153	2
E160288	132	3
E160195	81	6

*Work Orders are classified according to the severity of the issue. E is an emergency work order, S is a standard work order.

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Conclusion as to Finding 1

The HVAC Shop is functioning and servicing its stakeholder's needs for HVAC repair services as intended. However, our inspection revealed an absence of adequate internal controls, characterized by weak or non-existent policies and procedures, especially concerning key forms used to track refrigerant use. Additionally, it showed a failure to comply with those policies and procedures that did exist, as well as inadequate management oversight, all related to the key functions of receiving, usage, disposal and billing of refrigerant. The timely closing of work orders, allocation of the costs of subsequent service requests to unrelated, but previously open work orders, and the recordkeeping practices relating to SR & PR&LC Forms, are concerns. The lack of functioning internal controls and non-compliance with those that do exist, allows for the potential loss of refrigerant. RSS should update its policies and procedures as stated in the recommendations below, and institute further training and greater managerial oversight.

Recommendations:

The OIG recommends that ISD should:

1. Amend and revise the HVAC Shop's existing policies and procedures (P&P), and where necessary prepare new P&P, that require, at a minimum:
 - The documentation of the receipt/delivery of refrigerant, and retention of that documentation in a centralized location in the HVAC Shop;
 - Referencing of the SR and PR&LC Forms used to track refrigerant custody and usage, respectively, including the process for accurately and timely completing each of these forms;
 - Appropriate recordkeeping, in a centralized location in the HVAC Shop, of the SR and PR&LC Forms, for an appropriate period-of-time to be determined by ISD;
 - Documentation of refrigerant tank disposal, including documentation of having reconciled/verified refrigerant tank custody and refrigerant usage as detailed in the corresponding SR and PR&LC Forms, as a pre-requisite step in the refrigerant tank disposal process;⁹ and
 - Revision of the PR&LC Forms to require entry of each location/address where a work order is completed.

⁹ As the HVAC Shop already physically numbers refrigerant tanks upon delivery, and annotates the tank number on the SR Form upon issuing a tank to a mechanic, this recommended amendment/revision of the P&P, requiring reconciliation of tank custody and refrigerant usage, should dispense with the need to maintain a refrigerant tank log. That is, combined with retention of delivery documentation as recommended, all tanks received will either be in inventory, or "in use" and tracked through an SR Form, or in the disposal area, but only after appropriate reconciliation as recommended.

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2. Provide formal training, including periodic refresher training, to the HVAC Shop Mechanics, on how to properly complete the PR&LC Forms. Assure the HVAC Supervisor provides HVAC Mechanics adequate time at each job site to complete the corresponding PR&LC Form, and that the Supervisor holds HVAC Mechanics accountable for failing to timely and accurately completing these forms. Accountability could be enhanced by making the timely and accurate completion of the PR&LC Forms an element of the HVAC Mechanic's job description and work evaluations.
3. Institute a quality assurance process, overseen by the RSS Manager, to confirm the HVAC Mechanics are properly and timely completing the PR&LC Forms.
4. Establish a policy that requires service requests/work order information to be entered within a specified period-of-time into AS 400, and closed in AS 400, within a specified period-of-time, after each work order is completed.

ISD Response to Finding 1

ISD acknowledged the deficiencies addressed in the OIG's finding and stated that it is in the process of amending its policies and procedures and implementing the recommendations included in the report to ensure that corrective action is taken to address those deficiencies. ISD informed that, after being notified of these deficiencies, it already established an interim policy, including documenting delivery of refrigerant tanks, updating forms to include location and the process to complete them, the custody chain for tanks, and the disposal process.

Additionally, among the commitments outlined in its response, ISD commits to providing training to all staff, including new hires, on the updated requirements and adherence to procedures. Also, ISD will be holding the HVAC Shop Supervisor accountable for ensuring the HVAC Mechanics are properly completing forms and following procedures. Further, it will include compliance with policies and procedures in the supervisor and mechanic's yearly evaluations. Finally, the RSS Manager will be providing management oversight of work orders and quality assurance reviews, including random quarterly reviews, to assure policies and procedures are being followed.

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FINDING 2. The quantities and cost of refrigerant are not accurately reflected in AS 400, resulting in erroneous inventory counts and inaccurate amounts charged to user departments.

This inspection revealed that two of the five refrigerant purchases during the review period were inaccurately entered in AS 400, while a third purchase was not entered at all. These discrepancies caused user departments to be over or under-billed for refrigerant in 168 transactions for the review period, from January 1, 2016 through August 31, 2018.¹⁰ The reliability of the information contained in AS 400 is imperative to ensure effective and efficient government operations. ISD relies on the individuals tasked with inputting information into AS 400 to ensure that the data input is timely, accurate, and complete. Despite the importance of the correct entry of this information, the RSS HVAC Shop has not provided for managerial oversight of this function to assure the accuracy and timeliness of the information entered in AS 400.

AS 400 Testing

As part of the inspection process, the five refrigerant purchases made during the review period were compared to the data maintained in AS 400. The quantities of refrigerant received and the corresponding payments were confirmed in ADPICS, but did not reconcile to the quantities in AS 400 in all instances. The OIG auditors noted that Purchase Order Number (PO#) 1608836, dated July 18, 2016, for 1,200 pounds of R-22 refrigerant, at a cost of \$23,688, as reflected in Table 1, at page 5, did not appear at all in AS 400. We contacted the vendor that sold the refrigerant and obtained a copy of the delivery ticket that was signed by the HVAC Shop Lead Worker. The delivery receipt disclosed that PO#1608836 contained one palette of R-22 refrigerant and was delivered to the RSS warehouse on July 18, 2016.

Meanwhile, AS 400 reflected that on July 18, 2016, the inventory of R-22 refrigerant was 345 pounds. On September 19, 2016, the inventory of R-22 refrigerant as reflected in AS 400 decreased to a negative balance of (278) pounds. The inventory balance of R-22 refrigerant in AS 400 dropped to a negative balance because PO#1608836, consisting of 1,200 pounds of refrigerant, had not been entered in AS 400. Apparently, no one in the HVAC Shop noticed the inventory balance of R-22 refrigerant in AS 400 was negative, because there was R-22 refrigerant on the Shop's floor. In November 2016, an annual physical inventory of refrigerant at the RSS warehouse was performed. The inventory disclosed that there were then 1,084 pounds of R-22 refrigerant in the RSS warehouse. Meanwhile, the balance in AS 400 was a negative (278) pounds. Rather than adjusting the AS 400 balance to match the physical inventory count, the negative balance of (278)

¹⁰ Our review identified a total of 168 transactions, or service calls, which were affected by over-billing, or under-billing, as a result of data input errors into AS 400, or by omission from AS 400. As stated in Finding 2, at page 19, due to the occurrence of these over-billing and under-billing errors, we extended the review period of data entered in AS 400, from September 1, 2018 through June 30, 2019.

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pounds was erroneously subtracted from the physical inventory count of 1,084 pounds, to leave an adjusted balance in AS 400 of 806 pounds.

During the inspection, the County's AS 400 Programmer informed that in an instance where there exists a variance between the AS 400 inventory total and the physical inventory count, if a variance still exists after a second physical inventory count, the manager is required to provide an explanation regarding the shortage or overage, and the inventory is [supposed] to be adjusted to reflect the actual amount in inventory at the time of the count. Yet, the RSS/HVAC Shop personnel's failure to follow this practice resulted in the AS 400 inventory balance for refrigerant remaining inaccurate, as the 806 pounds of refrigerant then reflected in AS 400 varied from the actual physical inventory of 1,084 pounds of refrigerant on the warehouse floor. Further, no explanation was provided for the shortage.

Under-Billing for R-22 Refrigerant

Failing to enter P.O.#1608836, for 1,200 pounds of R-22 refrigerant, at a cost of \$23,688 (or \$19.74 per pound) impacts the price charged by ISD to the other County departments. This is because the cost of the most recent refrigerant purchase is used as a base to establish the new per pound price of refrigerant to be charged. The OIG auditors spoke with the County's AS 400 Programmer who confirmed that the failure to input or update the cost of the refrigerant purchased will, depending on the cost of the refrigerant purchased, cause the user departments to be either under-billed or over-billed. Here the omission of PO#1608836 meant that user departments continued to be charged the old purchase price per pound of the previous R-22 refrigerant purchase (\$9.30 per pound), instead of the most recent purchase price per pound of \$19.74. The erroneous lower price of \$9.30 price per pound was used for over a year, until the next purchase of R-22 was made on August 8, 2017. From July 19, 2016 through August 24, 2017, the RSS' HVAC Shop dispensed 1,128 pounds of R-22 refrigerant, and thus under-billed the user departments a total of \$11,776.32, as reflected in Table 5.

Table 5 – Under-Billing of R-22 Refrigerant to User Departments

Transaction Dates	Unit Price Charged Per Lb.	Actual Unit Price Per Lb.	Amount of Refrigerant Used (in lbs.)	Transaction Amount Charged	Calculated Transaction Amount	Calculated Amount Under Charged
07/19/16 – 08/24/17	\$9.30	\$19.74	1,128	\$10,490.40	\$22,266.72	(\$-11,776.32)

Under-Billing for 410-A Refrigerant

Further review of data contained in AS 400 for the RSS HVAC Shop revealed that the cost and quantity information pertaining to additional refrigerant procurements were not recorded accurately in AS 400. For instance, on January 29, 2018, the HVAC Shop, under

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P.O.#1804439, purchased 410-A refrigerant consisting of 1,000 pounds, at a cost of \$3,680, as reflected in Table 1. The quantity of refrigerant recorded in AS 400 was 1,400 pounds, and the cost recorded in AS 400 was \$5,040. These incorrect amounts entered in AS 400 overstated the amount of 410-A refrigerant purchased by 400 pounds. Additionally, as a result of these data entry errors, user departments were under-billed, and the RSS HVAC Shop was not fully compensated for the actual cost of the refrigerant. The data input errors caused the per pound cost of 410-A refrigerant, which actually was \$3.68 per pound (3,680/1,000), to be billed at a lower cost per pound to user departments, resulting in the HVAC Shop under-billing, as reflected in Table 6.

Table 6 – Under-Billing of 410-A Refrigerant to User Departments

Transaction Dates	Unit Price Charged Per Lb.	Actual Unit Price Per Lb.	Amount of Refrigerant Used (in lbs.)	Transaction Amount Charged	Calculated Transaction Amount	Calculated Amount Under Charged
05/16/18 – 08/30/18	\$3.60	\$3.68	225	\$810.00	\$828.00	(\$18.00)

Over-Billing for R-22 Refrigerant

On July 27, 2018, the HVAC Shop procured additional R-22 refrigerant consisting of 1,200 pounds, under P.O.#1812041, at a cost of \$14,360, as reflected in Table 1. The cost of refrigerant recorded in AS 400 was entered incorrectly as \$20,400; however, the quantity of refrigerant entered was correct. The incorrect cost entered in AS 400 as \$20,400, instead of \$14,360, inflated the price per pound of R-22 refrigerant by \$5.03 per pound (\$17.00 per pound instead of \$11.97), thus causing the user departments to be over-billed as reflected in Table 7.

Table 7 - Over-Billing of R-22 Refrigerant to User Departments

Transaction Dates	Unit Price Charged Per Lb.	Actual Unit Price Per Lb.	Amount of Refrigerant Used (in lbs.)	Transaction Amount Charged	Calculated Transaction Amount	Calculated Amount Over Charged
08/03/18 - 08/31/18	\$17.00	\$11.97	60	\$1,020.00	\$718.20	\$301.80

Over/Under Billing of Refrigerant Subsequent to Inspection Fieldwork

Due to the errors addressed above, the OIG auditors extended the review of billing in AS 400 to ascertain whether the RSS HVAC Shop corrected the billing errors noted in the system. The additional period reviewed was September 1, 2018 through June 30, 2019. However, this extension only looked at the per pound unit price of refrigerant charged to County user departments.

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For the additional 10-month period, both R-22 and 410-A refrigerants were billed to user departments at incorrect unit prices. R-22 refrigerant continued to be billed at \$17.00 per pound, when the actual price that should have been used for this period-of-time was \$11.97. In total, for this extended time period, County user departments were overbilled a total of \$5,331.80, as reflected in Table 8.

Table 8 – Over-Billing of R-22 Refrigerant to User Departments

Transaction Dates	Unit Price Charged Per Lb.	Actual Unit Price Per Lb.	Amount of Refrigerant Used (in lbs.)	Amount Charged to Depts.	Calculated Amount	Calculated Amt. Over Charged
09/01/18 - 06/30/19	\$17.00	\$11.97	1,060	\$18,020.00	\$12,688.20	\$5,331.80

For the 10-month period, 410-A Refrigerant was also billed to user departments at the incorrect unit price of \$3.60 per pound, when the actual price that should have been used was \$3.68. This resulted in user departments being under-billed a total of \$23.20, as reflected in Table 9.

Table 9 – Under- Billing of 410-A Refrigerant to User Departments

Transaction Dates	Unit Price Charged Per Lb.	Actual Unit Price Per Lb.	Amount of Refrigerant Used (in lbs.)	Amount Charged to Depts.	Calculated Amount	Calculated Amt. Under Charged
09/01/18 - 06/30/19	\$3.60	\$3.68	290	\$1,044.00	\$1,067.20	\$(23.20)

For the 10-month period of September 1, 2018 through June 30, 2019, the HVAC Shop billed County user departments incorrect unit prices for both 410-A and R-22 refrigerants. Without anyone verifying the accuracy of the data entered in AS 400, RSS could continue to mis-bill county departments. This was brought to the attention of the new RSS Manager. A review of AS 400 confirmed that the cost of the latest procurement was updated and stated correctly in the AS 400 system.

AS 400 Data Entry Errors

While it is impossible to determine the cause of these data input deficiencies, our inspection revealed that the scope of data input deficiencies is not limited to these three purchase entries. For instance, a review of AS 400 for the period April 20, 2017 through August 24, 2017, shows no transactions for refrigerant use were recorded, notwithstanding that SR and PR&LC Forms reviewed during our inspection show that the HVAC Shop provided services to County departments during these months. Through conversations with the AS 400 Programmer, we ascertained that when these errors are identified, the steps necessary to correct data errors require a significant amount of work. Moreover,

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management's ability to draw valid conclusions from the data is diminished as a result of these errors.

This situation has continued to exist due to a lack of monitoring of the information entered in AS 400 by management. As there is no independent verification of the information that is entered in AS 400 (or lack thereof), through managerial oversight, incomplete and incorrect information continues to go undetected and remains unaddressed for a lengthy period-of-time. Moreover, by failing to ensure that data entered in AS 400 is timely and accurate, the purpose of the information and its usefulness are jeopardized.

Recommendations:

The OIG recommends that ISD should:

5. Establish standards for staff responsible for entering information into AS 400; and establish a process for supervisory review of that person's work.
6. Utilize AS 400 to generate alerts when inventory decreases or increases beyond a tolerance level established by management.

ISD Response to Finding 2

ISD stated that it is requesting an additional position to address the immediate need for process improvement, which position will be responsible for ensuring the proper receipt, issuance and disposal of RSS supplies and providing the necessary controls required by the trade shop operation according to the revised policies and procedures. Also, ISD stressed that the HVAC Supervisor and the RSS Manager will conduct reviews to ensure the HVAC Mechanics are properly logging refrigerant use and inputting information timely for entry into AS 400, and that the mechanics' evaluations will reflect compliance with these procedures.

ISD also indicated that it has charged a newly created Compliance Unit with independently following-up to ensure that all recommendations are promptly and accurately implemented. The Director has invited the OIG to participate in the follow-up evaluation with the Compliance Unit and stated that all documentation will be made available for our review at any time.

IX. CONCLUSION

Control activities are actions management can establish by developing policies and procedures to achieve intended results, including appropriate documentation that can serve as source documents for reliable data, such as the SR and PR&LC Forms. Because

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control activities are the backbone of a functioning internal control system that assists with the reliability of data in an information system such as AS 400, hands-on management oversight and supervision are necessary to assure such controls are in place and are being followed, so as to preempt data errors and inaccurate inter-departmental billing.

Throughout this inspection, we observed that RSS Management had failed to develop adequate controls over the receipt, usage, and tracking of refrigerants, and over the input of data into AS 400, to ensure that the HVAC Shop's inter-departmental billing for services is accurate. This report identified specific problems resulting from these failures and set forth specific recommendations to the ISD Director, for implementation at the RSS HVAC Shop level, to establish and institute a series of delineated policies and procedures, intended to serve as a comprehensive basis for such control activities, as part of a properly functioning internal control system.

The OIG appreciates ISD's acceptance of all recommendations. The OIG asks ISD to report on the status of fully implementing all recommendations, and to include with its response any documents, new or amended policies and procedures, supporting its implementation. We kindly request that ISD provide the OIG with this status report in 90 days, or on or before April 27, 2020.

Last, the OIG would like to thank the ISD staff for their cooperation and for the courtesies extended to the OIG throughout this inspection.

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EXHIBITS

1. Renovation Services Section Stockroom Refrigerants Procurement and Handling Guidelines
2. Stock Requisition Form
3. Product Release & Log Control Form

Renovation Services Section Stockroom Refrigerants Procurement and Handling Guidelines

1. Procuring Refrigerants (contract # 1046-1/21-1)

- a. Once it's time to order refrigerants, a request is made to the Buyer with the quantities and types of Refrigerants, and an RFQ goes out to the vendors on the above noted contract. When the bids are received, the lowest responsible bidder is awarded the bid. A Purchase Order is then issued and once the product is delivered and received by the stockroom clerk, the vendor is paid upon submission of an invoice.

2. Stockroom Supervisor handling of refrigerant orders

- a. Input the Refrigerants into the inventory system as Stock
- b. Clerk label each tank with a six digit number
- c. Refrigerants are ready to be giving out.

3. Assignment and use of the Refrigerants

- a. (Single use)
 - i. A Stock Requisition Form is filled out and signed by the A/C Shop supervisor or Lead worker with the service ticket number and the address where the refrigerant will be used is presented to the stockroom clerk. The stockroom clerk adds the tank number on the tank and initial the stock requisition form prior to releasing the refrigerant tank.
 - ii. A copy of the stock requisition form is giving to the a/c journeyman and a copy is kept with the clerk.
- b. (Multiple use)
 - i. A Stock Requisition Form is filled out and signed by the A/C Shop supervisor or Lead worker with an attached Product Release & Control Form to itemize the different service tickets and locations where that tank of refrigerant will be used. The stockroom clerk adds the tank number on the tank and initial the stock requisition prior to releasing the refrigerant tank.

4. Handling of refrigerant tanks at the end of use

- i. All refrigerant tanks must be returned to the stockroom empty with issued paper work and recorded itemized use.
- ii. The stockroom clerk compares returned stockroom requisition form to the original one that was issued with the tank.
- iii. Empty tanks are perforated, so they can't be re-used and disposed of accordingly by the stockroom clerk.

Renovation Services Section Stockroom Refrigerants Procurement and Handling Guidelines

5. Billing for use of Refrigerants

- a. (Single use)
 - i. With the returned Stock Requisition Form detailing the use of the refrigerant, the stockroom supervisor input the required information into the As400 inventory system and charges the full tank to the service ticket on the request form.
- b. (Multiple use)
 - i. With the returned Product Release & Control Form to itemize the different service tickets and locations where the tank of refrigerant was used. The stockroom supervisor input the required information into the As400 inventory system and assigned charges to each service ticket based on the documented use of the product release and control form.

END



Top of form is required to be completed by Supervisor or Lead Worker

Clerk is required to initial here after releasing tank

Completed by Maintenance Supervisor

Clerk's Initials: [Signature] Discrepancy Noted Completed

HVAC STOCK REQUISITION FORM

Internal Services Department/ Facilities Management Division

Request #: 199695 Requested by: MAXRO H Approved by: [Signature]
Date: 06/11/18 Truck # _____ W.O./S.T. # ET61502

Qty Needed	Qty Supplied (if less)	Qty Balance	Stock Part Number	Stock Location	Line Item Comments
25lbs	25lbs		4130-05	1010/B-00-X-0-01	FREON R-410A

General Comments: TANK # 12-27-16

60_01-368 8/14

Tank number is written on form by Clerk

Top of PR&L form is completed by Supervisor or Lead Worker

Product Release & Log Control Form (Refrigerants)

Tank Number: 12-27-16

Release Date: 06/11/18

Technician: Mario Hidalgo

Truck Number: _____

Number: 4130-05

Refrigerant Type: 410A

Initial Balance in Tank: 25 Lbs.

Supervisor Approval: Carlos M. Mendez

Date	Lbs. Used	Service Tckt. #	Comment

These sections of the PR&L form are required to be completed by the HVAC mechanics.

End Balance in Tank: _____

In order to receive a new refrigerant tank you must turn-in the empty tank and obtain new supervisor approval.

MIAMI-DADE COUNTY OFFICE OF THE INSPECTOR GENERAL



APPENDIX A

Internal Services Department's Response to Draft Report

Date: January 15, 2020

To: Mary T. Cagle
Inspector General

From: 
Tara C. Smith
Director, Internal Services Department

Subject: Response to OIG Draft Report – Inspection of the Internal Services Department’s Refrigerant Usage and Controls – IG18-00004-A

Thank you for providing a draft copy of the referenced report for the Internal Services Department’s (ISD) review. While the allegation of fraud was unsubstantiated, I am deeply grateful for the time and attention that your office dedicated to this matter and appreciate the opportunity to review this specific ISD operation in great depth. The Renovations section is in the process of amending existing policies and procedures in order to address each finding and implement the recommendations provided by your office in the report. Below are ISD’s response to the findings.

Finding 1. Internal controls, as well as management oversight, related to key aspects of refrigerant inventory, use, tracking, and the billing of user departments, are inadequate or non-existent.

This section of the department spends a great deal of time and energy responding to emergencies across all County departments. With skilled workers across all trades, they serve as an invaluable asset for County departments and our aging infrastructure, providing immediate response when a County facility has a burst pipe, failed air conditioning, roof leak, power failure, and so much more. There is a great volume of work in this area, virtually all of it on an emergency basis, and there is often a backlog of work to catch up on. An emphasis on the administrative management, oversight, and billing of these services must now take top priority. There are a number of ways this has begun already and will continue to improve, including:

- An updated, interim policy was established as soon as the deficiency was brought to the attention of the Renovations Manager. This interim procedure - including the documentation of deliveries of refrigerant tanks, the updated forms to include location and the process to complete them, the custody chain of tanks, and the disposal process - will continue to be revised and monitored to ensure that it captures all of the recommendations.
- Training will be provided to all staff on updated requirements and the importance of adherence to procedures. This training will also be provided to new hires, and a refresher course will be scheduled once a year, and more as needed.
- The HVAC Shop Supervisor will be held accountable to ensure that the HVAC Mechanics are following instructions to complete forms and procedures. Supervisor and Mechanics’ yearly evaluations will reflect their compliance with policies and procedures.
- A Program Management Specialist position will be assigned to the Trade Shops to perform project management services that are currently being handled by the Renovations Manager. This additional resource will allow the Renovations Manager to dedicate additional time to provide management oversight of work orders and quality assurance of the operations to ensure that staff are following policies and procedures.
- The Renovations Service Manager will conduct random quarterly reviews to ensure that the updated policies and procedures are being followed.

Finding 2. The quantities and cost of refrigerant are not accurately reflected in AS400, resulting in erroneous inventory counts and inaccurate amounts charged to user departments.

The position of Stockroom Clerk was eliminated in 2016 as a cost cutting measure, and those responsibilities have been divided across other staff since that time. An additional position will be requested as an overage in order to quickly address the immediate need for process improvement. This will be a dedicated resource that will be responsible to ensure the proper receipt, issuance, and disposal of Renovation Section supplies and provide the necessary controls required by the Trade Shop operation according to the revised policies and procedures.

The HVAC Supervisor and the Renovations Manager will conduct regular reviews to ensure that HVAC Mechanics are properly logging the use of the gas and inputting the information timely into the AS400 system. The Mechanics' performance evaluations will reflect their compliance with these procedures.

I have tasked ISD's new Compliance Unit with the follow-up to independently ensure that all recommendations are promptly and accurately completed and reported directly to me at established time intervals. Your staff are welcome to participate in the follow-up evaluation, and all documentation will continue to be made available for inspection by your office at any time.

Should you have any questions or require additional information, please do not hesitate to contact me at (305) 375-1135.

c: Edward Marquez, Deputy Mayor
Jacques Bentolila, Assistant Director, ISD
Kenneth Sapp, ISD Compliance and Audit Manager