

**COUNTY COUNCIL OF WICOMICO COUNTY, MARYLAND**

2016 Legislative Session

Legislative Day No. 23

**Resolution 143-2016**

Introduced by: The President of the Council

**A RESOLUTION ACCEPTING THE AUDIT REPORT ON  
THE WICOMICO COUNTY FUEL INVENTORY SYSTEM.**


WHEREAS, under Section 305, titled "County Internal Auditor" of the Charter of Wicomico County, Maryland, the Internal Auditor is charged with the duty to report on internal accounting controls, administrative and operating practices and procedures, and other pertinent financial and compliance matters within Wicomico County; and

WHEREAS, the Internal Auditor has submitted an audit report on the Wicomico County Fuel Inventory System for the County Council's consideration, which focuses on the adequacy of procedures and controls as well as the level of compliance with those procedures and controls for the process of accounting for fuel usage in Wicomico County through the established fuel inventory system.

NOW, THEREFORE, BE IT RESOLVED, by the County Council of Wicomico County, Maryland that the audit report on the Wicomico County Fuel Inventory System submitted by the County Internal Auditor, attached as Exhibit A, is accepted.

Done at Salisbury, Maryland, this 15<sup>th</sup> day of November, 2016.

ATTEST:

  
Matthew E. Creamer,  
Council Administrator

COUNTY COUNCIL OF  
WICOMICO COUNTY, MARYLAND

  
John T. Cannon,  
Council President

CERTIFICATION

This Resolution was Adopted , Adopted with Amendments , Failed , Withdrawn  by the County Council on November 15, 2016.

Certified by   
Matthew E. Creamer, Council Administrator



**Wicomico County, Maryland**  
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**Steve Roser, CPA/CIA/CFE**  
*Internal Auditor*

October 12, 2016

## Internal Auditor's Report

The County Council and County Executive of Wicomico County, Maryland:

Pursuant to Section 305(D) of the Wicomico County Code and Council Resolution No. 86-2016, the Office of the Internal Auditor (IA) has conducted an Audit of the Wicomico County Fuel Inventory System. A report is submitted herewith. The purpose of the audit was to determine the adequacy of procedures and controls along with the level of compliance with those procedures and controls for the process of accounting for fuel usage in Wicomico County through the established fuel inventory system.

IA conducted the audit with due professional care, and IA planned and performed the audit to obtain reasonable assurance about whether the current fuel inventory system practices are in compliance with applicable policies and procedures and whether those policies and procedures are adequate to obtain an acceptable level of control.

We performed other audits of the Wicomico County Fuel System in FY 2011 and FY 2015<sup>1</sup> allowing comparisons regarding fuel consumption. As before, the audit revealed existence of the same electronic fuel system with some checks and balances in place implemented by the administrators of the fuel inventory system.

IA extends appreciation to Management and Staff in Administration and Public Works for their timely assistance, cooperation, and candid assessment of the Fuel Inventory System.

Respectfully submitted,

J. Stephen Roser, CPA  
Internal Auditor

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<sup>1</sup> Please see Audit Reports dated June 14, 2011 and December 10, 2014

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## Audit Report

### Background

#### Wicomico County Fuel System Inventory Program

Wicomico County utilizes an automated diesel fuel and unleaded gasoline dispensing system manufactured by Syn-Tech Systems, Inc. called Fuelmaster Plus<sup>2</sup> to account for fuel use. The system consists of two parts. The first is an electronic pumping device. A second electronic device installed directly on vehicles and equipment is known as the AIM2<sup>3</sup> unit. The pumping device wirelessly reads the AIM2 unit for each vehicle, or piece of equipment, and provides computer tracking of fuel use and other information from the vehicle's electronic system. Reports generated from computerized tracking are then available to monitor fuel use, perform billing to various users, track fuel inventory, and provide accountability. Alternatively, the County may provide the user with a "prokee" device<sup>4</sup>. The Fuelmaster electronic pumping system reads the prokee and allows fueling. A prokee is assigned to a vehicle or piece of equipment, but is not physically attached to any particular vehicle or piece of equipment.

#### Audit Objectives

The objectives of the audit were to:

1. Assure that internal controls are in place to prevent abuse
2. Assure adherence to controls
3. Assure that fuel is properly charged to users

#### Scope of the Audit

The audit period examined, on a test basis, was from March 1, 2016 to March 31, 2016. All Fuelmaster transactions for the period were reviewed. IA conducted observations, interviews, and inquiries with appropriate personnel, and reviewed available month-end inventory records. Additionally, IA examined, on a test basis, various documents, and electronic system information pertaining to, but not limited to, the following:

- Various data reports from Fuelmaster Plus Program
- Internal financial data
- Inventory records
- Billing records
- Human Resource records
- Selected purchase card transactions

Other than the time period tested, the scope was open ended with concentration on internal control procedures, adherence to those procedures, and examination of the data available for the period.

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<sup>2</sup> For more information on Fuelmaster Plus see <http://www.myfuelmaster.com>

<sup>3</sup> The AIM2 units are known locally as "fuel rings". The unit consists of several components one of which is a visible electronic ring installed over the vehicle's fuel intake port

<sup>4</sup> A prokee device is a small plastic wand that fits on a key ring and is programmed by the administrator for a particular vehicle, piece of equipment, or storage can (e.g. "gas can for weed whackers"). It is read electronically by the pumping device and usage is applied in the database according to administrator setup

## General Statistics and Highlights

The following chart shows March 2011, 2014 and 2016 fuel usage by user group. The values are from Fuelmaster data.

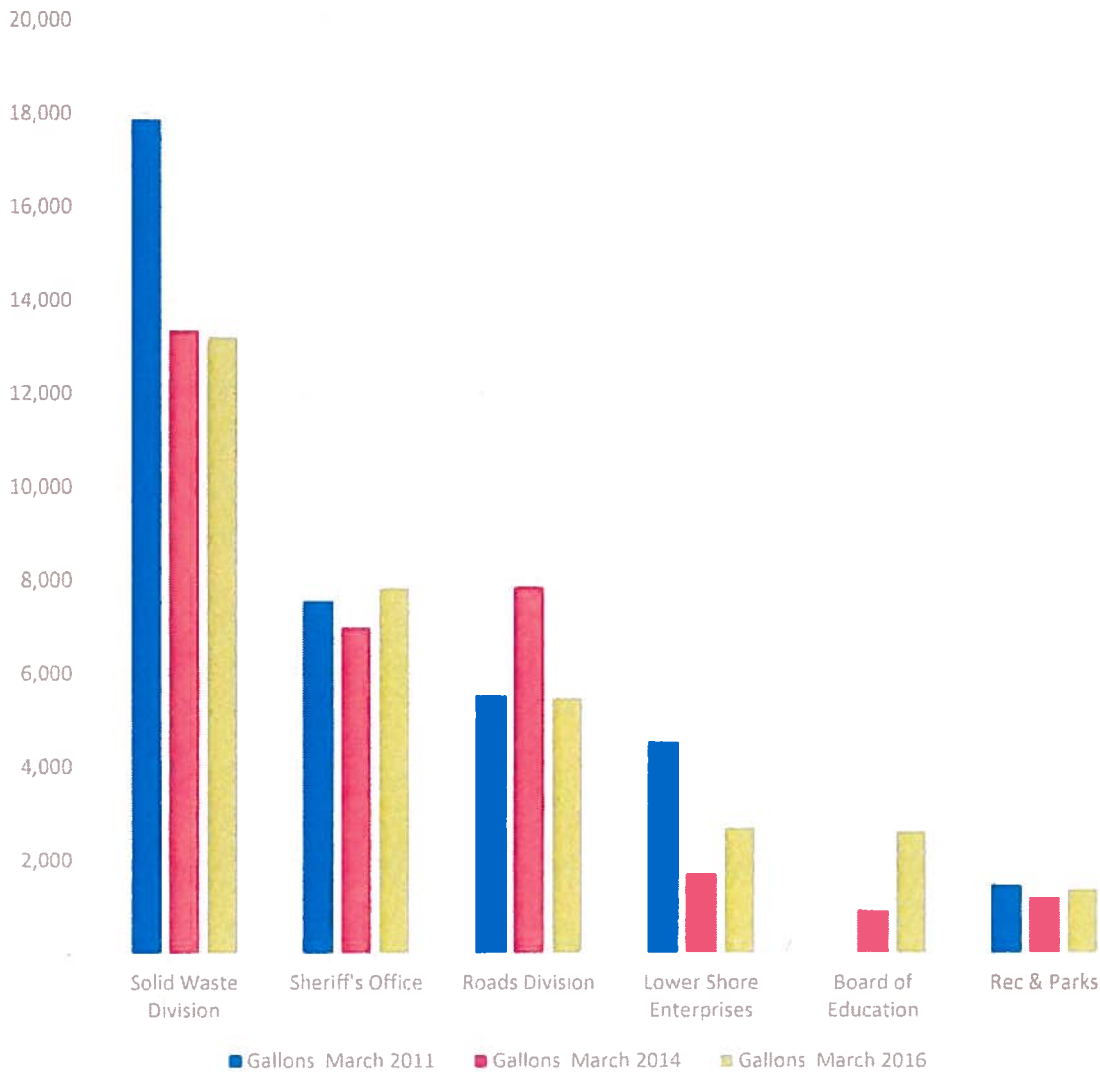
Group	Gallons		
	March 2011	March 2014	March 2016
Solid Waste Division	17,866	13,348	13,207
Sheriff's Office	7,547	6,989	7,824
Roads Division	5,487	7,429	5,474
Lower Shore Enterprises <sup>5</sup>	4,499	1,695	2,686
Board of Education	-	909	2,604
Rec & Parks	1,470	1,182	1,376
Airport	336	1,435	631
Health Department	624	446	527
Department of Corrections	597	407	464
Environmental Health	324	228	363
Wicomico County Planning & Zoning	48	49	263
Office of State's Attorney	160	179	213
Humane Society	85	199	210
Department of Emergency Services	323	179	182
Wicomico County Executive	151	156	178
Wicomico County Housing Authority	224	165	171
Wicomico County General Services	98	131	116
Bookmobile/Library	132	185	71
Wicomico Youth & Civic Center	130	102	54
Human Resources	-	-	53
Board Of Elections	-	-	26
Local Management Board	14	-	25
Wicomico County Council	35	21	18
IT Department	-	16	15
Liquor Control Board	-	78	13
Wicomico County Public Works	173	182	-
Wicomico County Tourism	16	27	-
Retired Vehicles	122	-	-
<b>Total Gallons Consumed</b>	<b>40,461</b>	<b>35,737</b>	<b>36,763</b>

A graphical comparison of top users follows:

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<sup>5</sup> User groups are billed separately by Roads Division and groups in red are outside entities

Usage Comparison March 2011, 2014, and 2016 (Gallons)



Data reveals that from the period March 1, 2016 to March 31, 2016 Wicomico County used 36,763 gallons of unleaded gasoline and diesel fuel at a cost of \$54,774. It is noteworthy that the March 2016 total fuel cost is less than half the cost in March 2014 due to falling prices. Fuel billing analysis for FY 2016 showed large variances between fuel billing spreadsheets to user departments and Fuelmaster data. Additionally, we discovered incorrect fuel tax calculations and missing or incorrect formulas in the fuel billing spreadsheet. The Inventory variance report for FY 2016 was incomplete. We located numerous notes in the former Fuelmaster's office with various stick readings, but no usable report with calculations.



Extensive review through data mining comprised a major part of this audit. IA offers comments on many of the procedures in a subsequent section of this report. We performed the following tests and observations with satisfactory<sup>6</sup> results:

- Vehicle fuel usage data for reasonableness
- After hours transactions
- Total usage by Department (per Fuelmaster)
- High-end users testing for reasonableness
- Storage tank evaluation (fuel in – fuel out)
- Purchase card fuel transactions

IA performed the following test with inadequate<sup>7</sup> results:

- AIM2 unit usage compliance
- Inventory variance evaluation
- Billing variance evaluation

## Conclusion

Based on the considerable information gathered in this process:

1. The administrative oversight procedures in place are at an inadequate level of internal control compliance for the stated purposes.
2. Compliance with the AIM2 systems usage is currently at an inadequate level.
3. The process of charging fuel to departments and users is at an inadequate level of internal control.

## Schedule of Findings and Recommendations/Management Response

The current review of the Fuel Inventory System for Wicomico County, once again, revealed the presence of internal controls. Adherence to controls, however, needs some work. Some questions remain regarding implementation and the ability of the Fuelmaster system to deliver functionally without the extensive use of Prokees. Roads Division reworked some of the protocols to help enhance tracking usage that may have the opposite effect. Additionally, a disconnection seems to exist between the Fuelmaster manufacturer and those in the County assigned the responsibility of maintaining the system. The findings listed below represent some key issues that warrant discussion.

### 1. AIM2 Unit Usage and Manual Entries

One major component of the Fuelmaster system is the electronic AIM2 unit installed in vehicles. The AIM2 unit provides the Fuelmaster system with the ability to recognize the vehicle, allow fueling, and provide information about the vehicle for the Fuelmaster database. Lack of compliance regarding the installation of these units was a concern and a finding brought forth by the FY 2011 and FY 2014 audit reports. Current testing indicated that one-third of County vehicles and equipment are non-compliant with the AIM2 unit protocols.

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<sup>6</sup> For the purposes of this audit, IA uses a three-tier grading system recommended by the International Professional Practices Framework (IPPF) as expressed by the [IPPF Practice Guide](#) issued March 2009. The three tiers are Inadequate System of Internal Control, Adequate System of Internal Control, and Satisfactory System of Internal Control. Satisfactory findings indicate that overall controls are satisfactory, although some enhancements may be recommended. It is the highest rating on the scale.

<sup>7</sup> According to [IPPF Practice Guide](#) issued March 2009: Inadequate system of internal control means that “findings indicate significant control weaknesses and the need for urgent remedial action.”

Observations and interviews with management and field personnel revealed that some of the same problems remain with Fuelmaster functionality. A Fuelmaster engineer worked with County mechanics in August 2016 to solve some of the problems with the AIM2 units, but to date, issues remain. Alternative fueling involves the use of prokee devices. The prokees do not contain the same level of internal control as the AIM2 units. Additionally, we have evidence that the data contains manual override entries.

### **Management Response**

*The Fuelmaster engineer spent one full day working with various issues the Roads division had been encountering with the AIM2 units. Each make and model of vehicle requires either a different type of AIM2 unit or different programming. The Roads division currently lacks the equipment and knowledge to reprogram these in-house. Parts of this technology require more of an IT background, rather than a mechanic. It is our goal that hiring the future Roads System Coordinator will fill this gap.*

*When fueling issues do not get resolved in a timely manner (e.g. having to send AIM2 units to get reprogrammed or delayed troubleshooting support from Fuelmaster) a prokee is utilized. Some departments (e.g. Airport) have pushed for prokees rather than utilizing and troubleshooting the AIM2 units. Resistance from another department to the Fuelmaster system is outside of the control of the Roads Division.*

## **2. Missing Information**

Data review for March 2016 revealed some missing information. For example, vehicle descriptions and user identification numbers were missing for some transactions. IA provided a list to fuel management and will follow-up. It should be noted that the missing information does not appear to be a widespread problem. Additionally, it appears that a user identification number input is not required in order to dispense fuel. IA is of the opinion that such a requirement would serve to enhance internal control and we recommend consultation with the software vendor to determine if the requirement can be added to the system. This finding is identical to finding #2 contained in the December 10, 2014 audit report.

### **Management Response**

*The Roads division is currently seeing if the missing information can be obtained. The user identification number input issue seems to be an option in the Fuelmaster program that can be turned on and off. Certain vehicles, for an unknown reason, had this option turned off. This option will be turned on for all vehicles, requiring all users to input their user identification number.*

## **3. Portable/Ancillary Metered Tanks Evaluation**

The county maintains three 1000-gallon metered ancillary diesel tanks to distribute fuel as follows:

1. Stationary tank at the Airport used to fuel equipment
2. Portable truck-mounted tank from Roads Division used primarily to fuel mowers and the Airport tank
3. Portable truck-mounted tank from Solid Waste used primarily to fuel equipment at the landfill

The County established separate transaction codes for the portable/ancillary fuel tanks. The data for the fuel pumped into the tanks registers separately and is not billed to the user departments. We tested the fuel inventory for fuel pumped into and out of the storage/ancillary tanks and found acceptable variances. Additionally, as mentioned previously, testing revealed manual entries some of which relate to the portable/ancillary tanks allowing for a serious gap in control.



### **Management Response**

*These tanks fuel a multitude of equipment and vehicles, including the county's ferries. More specialized pieces of equipment may not be compatible with the AIM2 unit (e.g. Solid Waste's tub grinder).*

### **Auditor Comment**

Management is correct in that some assets are incompatible with the AIM2 arrangement. The use of prokees in these situations with backup paper records serves to provide acceptable control levels in these instances. The testing for AIM2 compliance (66%) did not count assets owned by outside agencies or assets that clearly could not accept AIM2 units (e.g. gas cans).

## **4. Inventory**

IA performed a collaboration exercise with the administrator of the Fuelmaster system during the 2011 audit to create a tool used to track inventory variances. Testing revealed the inventory variance tool worked as designed in March 2014 (see audit report dated December 10, 2014). We could not find a current version of the variance report for March 2016. We tested billing, purchases, and perpetual inventories and found some discrepancies.

### **Management Response**

*The Roads System Coordinator position should have been using a current version of the inventory variance report. The person in this position has been separated from employment with the county and position will be filled shortly. The future Roads System Coordinator will manage this report.*

## **5. Universal Prokees**

We discovered a series of prokees kept in the fuelmaster's office at Roads Division. An unlocked cabinet contained labeled prokees for numerous departments. Designations for the prokees in the database were "only when AIM is not working". The County pumped nearly 2,500 gallons of fuel with these emergency keys from January to August 2016. It is not clear from the data what vehicles received the fuel. We recommend that management deactivate the prokees as soon as possible.

### **Management Response**

*When a problem with an AIM2 unit is not fixed in a timely manner, a prokee is used. A prokee was kept for each department to facilitate proper billing. While the cabinet was unlocked, it is located in the office of the Roads System Coordinator, which has been locked when not in use. The Roads Division will comply with the deactivation of these prokees, however should an emergency fueling be required there could be significant delays and/or proper billing issues.*

*It is the intention of the Roads division to have the future Roads System Coordinator perform additional audits and analysis of the prokee usage to remove the liability. Many municipalities utilize a prokee-only style system, however it requires additional oversight to confirm odometer and fuel efficiency readings.*

## **6. Billing and Purchasing**

As mentioned previously, we were unable to obtain a current inventory variance report. In lieu of a variance evaluation, we tested the relationship among shipments received, usage according to Fuelmaster data, and departmental billing. We compared all fuel purchases to all billing for FY2016 and found favorable comparisons. However, when comparing Fuelmaster data to billing data, we find large inconsistencies. It is possible that the Fuelmaster program contains inaccurate data that may be caused by various factors including input error and manual transaction entries.

### **Management Response**

*All efforts are currently being made to investigate and correct the inaccurate data. The previous Roads System Coordinator, who managed this system, was not as organized or as transparent as is needed for this position. The Roads Division accountant is currently handling these duties until the Roads System Coordinator position is filled.*

### **7. Usage by Outside Entities**

Numerous outside agencies<sup>8</sup> use the County fuel system:

- Lower Shore Enterprises
- Board of Education
- Health Department
- Environmental Health
- Humane Society
- Housing Authority
- Bookmobile and the Library

During FY 2016, these agencies consumed 18% of the total fuel dispensed by Wicomico County. The County prices fuel at cost plus \$.05 per gallon dedicated to a sinking fund for eventual replacement of the Roads Division fuel-dispensing infrastructure. These entities saved 26% of fuel cost over retail for the month of August 2016. Although the County processes the sales, performs billing, and maintains the facility, the County receives no markup for related fixed and variable overhead.

### **Management Response**

*The \$.05 per gallon surcharge is not sufficient to cover the operations and maintenance (O&M) of the fueling system, requiring the Roads Division budget to cover most fuel-related expenses. There is an overall benefit to the county to allow these outside entities to utilize our fuel system, however by not adequately covering the O&M the Roads Division is in essence subsidizing their fueling. This requires further investigation.*

### **Auditor's Closing Remark**

The Wicomico County Office of the Internal Auditor would like to thank management and staff from the Department of Public Works and County Finance for their timely cooperation and assistance during the audit.

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<sup>8</sup> For the purposes of this audit, outside agencies are defined as entities that do not appear on the County government-wide financials plus two component units: the Board of Education and the Library