Delaware Volunteer Fire Service Special Report

November 19, 2020

BY DELAWARE STATE AUDITOR
KATHY MCGUINESS

TABLE OF CONTENTS

HISTORY	PG.1
BACKGROUND	PG. 2
IMPORTANCE OF VOLUNTEER FIREFIGHTERS	PG. 5
VOLUNTEER FIREFIGHTER REVENUE STREAMS	PG. 7
VOLUNTEER FIREFIGHTER COST SAVINGS	PG. 8
INTERNAL CONTROL SURVEY REVIEW	PG. 9
RECOMENNDATIONS	PG.13
APPENDIX A: PROJECTED COSTS OF EMPLOYED STATEWIDE FIRE SERVICE	PG. 15
APPENDIX B: PROJECTED PROPERTY TAX INCREASE	PG. 16
APPENDIX C: DETAILED COST SAVINGS INFORMATION	PG. 17
APPENDIX D: EQUIPMENT COST & REPLACEMENT COST	PG. 18
APPENDIX E: METHODOLOGY FOR PROJECT COST SAVINGS	PG. 19
APPENDIX F: VFC INTERNAL CONTROL SURVEY	PG. 21

ABBREVIATIONS

EMT: Emergency Medical Technician

DVF: Delaware Volunteer Firefighter's Association

NFPA: National Fire Protection Association

SFC: State Fire Commission

VFC: Voluntary Fire Companies

WFD: Wilmington Fire Department

Thankfully, no firefighters were lost in the line of duty through June 30, 2020. This is a direct reflection on the quality of training provided to volunteer firefighters and other fire service volunteers.

State of Delaware
Office of Auditor of Accounts

Kathleen K. McGuiness, CFE, RPh
State Auditor

November 19, 2020

Mr. Norman Jones
President
Delaware Volunteer Firefighter's Association
122 Bradford Street
P.O Box 19903
Dover, DE 19903

Ms. Karen Workman
President
Ladies Auxiliary Association
122 Bradford Street
P.O Box 1849
Dover, DE 19903

Dear Mr. Jones and Ms. Workman:

I am very pleased to present the annual Delaware Volunteer Fire Service Special Report. Delaware's volunteer fire service is, and always has been, a tremendous asset to Delawareans. The Delaware fire service demonstrates the pride and support of many volunteers, both firefighters and the auxiliary members.

A volunteer's time includes fire responses, training, public education efforts, vehicle maintenance, station upkeep, and many other valuable contributions. Firefighters and rescuers leap into action when our fellow Delawareans needs us the most. When someone calls 9-1-1, these brave men and women answer the call to duty. The firefighters, EMTs, auxiliary members, and support personnel make sacrifices that we should all be thankful for.

The Office of the Auditors of Account (OAOA) presents this report each year. However, this year is very different. We are amid a global pandemic and an economic recession, which hits the very heart of our volunteer fire service companies. As the following report details, volunteers not only sacrifice their personal time and energy, but also save state taxpayers a significant amount of money for the critical services they provide. My office estimates a savings of more than $244 million for the state fiscal year ending June 30, 2020.

These individuals voluntarily put their lives on the line to provide the citizens of Delaware with a safer and more secure community. I would like to express my deep appreciation for the men and women providing these services. I would also like to thank the personnel at the volunteer fire service companies who responded to the OAOA 2020 Internal Control Survey. Our report includes several recommendations based on best practice to assist the volunteer fire service community in strengthening their internal controls.

Sincerely yours,

Katty McGuiness

Kathleen K. McGuiness, CFE, RPh
State Auditor

401 FEDERAL STREET ● TOWNSEND BUILDING ●3rd Floor● DOVER, DE 19901 Main Office: 302-739-4241

HISTORY

The volunteer fire service has a long-standing and proud tradition nationally and locally. Its roots trace back over 275 years ago. After a series of devastating fires in the 17th and 18th centuries, many cities began to adopt more stringent fire codes and more organized fire brigades. After an extensive fire in Philadelphia in 1736, Benjamin Franklin created a fire brigade called the Union Fire Company with 30 volunteers establishing the first organized volunteer fire company in America [i] Other famous Americans who were volunteer firefighters were George Washington, Thomas Jefferson, Samuel Adams, John Hancock, Paul Revere, Alexander Hamilton, Aaron Burr, Benedict Arnold, and James Buchanan.[ii] Women began serving as volunteer firefighters in 1818.[iii]

Photo courtesy of the Lewes Fire Dept. Website

First organized in 1930 as the Mutual Relief Association, Delaware VFCs protected individuals and properties by providing emergency medical and fire services. [iv] These companies also conduct a variety of prevention efforts and public education to promote fire safety and emergency preparedness. In many instances, Delaware's volunteer fire service encompasses families generation after generation. Volunteer firefighters continue to play an invaluable role in protecting lives and property today.

Every 25 seconds, a fire department responds to a fire somewhere in the nation.

- Volunteer Fire Service Fact Sheet

BACKGROUND

Delaware volunteer firefighters and volunteer fire departments (non-profit companies) play an important role in our state and communities. Their voluntary efforts result in significant cost savings to the State of Delaware.

What is a volunteer firefighter?

Volunteer firefighters are first responders who perform fire suppression and administer first aid for a community or local jurisdiction.

What is a VFC responsible for?

A VFC is an organization that is responsible for fire, rescue, emergency medical, and other emergency response related services for a local jurisdiction. VFCs often have administrative, fire, and auxiliary/support functions. Their operational activities include: accounting, ongoing equipment purchases/maintenance of vehicles and apparatus, and facility management.

How many VFCs and volunteers are there in Delaware?

In 2020, Delaware has 60 volunteer fire companies, 21 substations, and 3 ambulance stations, with approximately 6,000 volunteers serving as firefighters, Emergency Medical Technicians (EMT), or support members (e.g. life, auxiliary, juniors/cadets). The breakdown within the three counties is as follows:

New Castle County

Volunteer Fire Companies: 21

Kent County

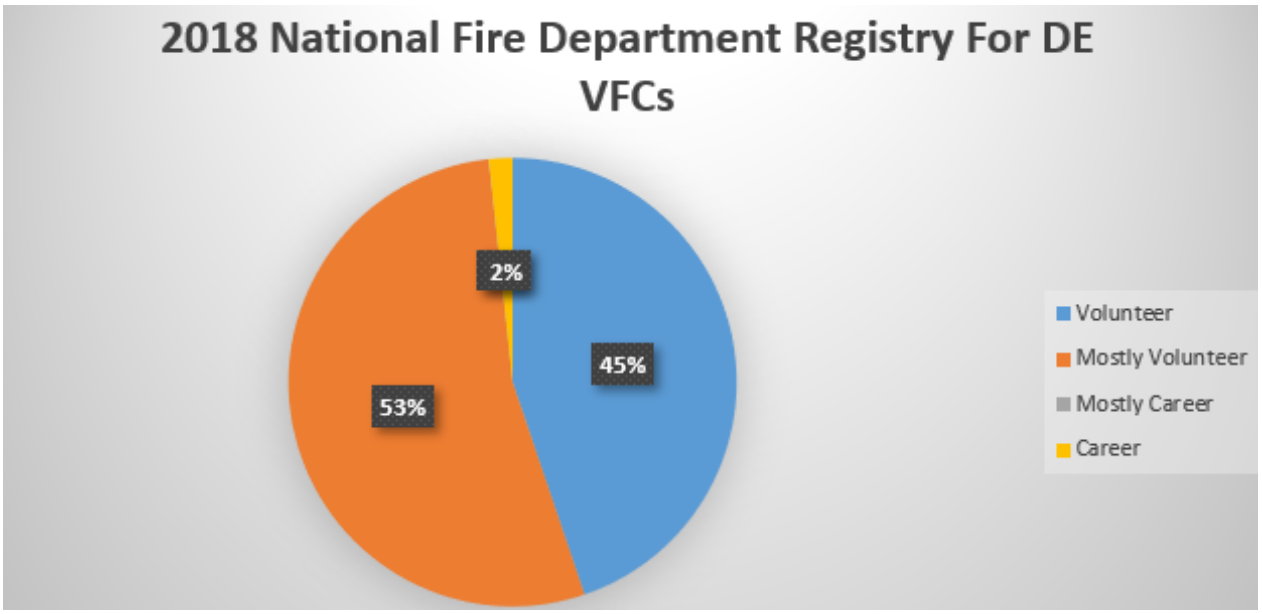
Volunteer Fire Companies: 18

Sussex County

Volunteer Fire Companies: 21

BACKGROUND

Currently, registered or mostly volunteer fire departments comprise 98.3% of Delaware's fire service, while volunteers comprise 67% of firefighters nationally. Fire departments in Delaware are registered with the National Fire Department Registry as: Volunteer, Mostly Volunteer, Mostly Career, or Career.



Figures obtained from FEMA 2018 Fire Department Registry

What benefits do Delaware first responders receive for their service?

The State of Delaware offers a variety of benefits to recognize volunteer firefighters, auxiliary members, and EMTs for the sacrifices they make through their volunteer services. As a volunteer firefighter, there is also a sense of pride and accomplishment for volunteering in their local community. These benefits include:

- A $400 tax credit on state personal income taxes each year;
- Membership to the Delaware Blood Bank; Participation in a pension plan;
- Worker's compensation for disabilities received in the line of duty;
- A special "Delaware Volunteer Firefighter's License Plate" for personal vehicles; and
- Membership to the Delaware Federal Credit Union.
- In the unfortunate event that a service member suffers a death in the line of duty, further benefits include:
- Life insurance payments of $200,000 for deaths in the line of duty; and
- Reimbursement for college tuition expenses for dependent children.

BACKGROUND

Who oversees a VFC in Delaware?

The Delaware State Fire Commission (SFC) is responsible for the protection of life and property from fire for all Delawareans. The SFC oversees the VFC entities, the Delaware State Fire Marshal's Office, and the Delaware Fire School. The SFC includes seven members who are appointed by the Governor. The seventh member is the immediate past President of the Delaware Volunteer Firefighter's Association.

How is an individual VFC organized in Delaware?

Each VFC is incorporated as a non-profit entity. VFCs are composed of community members who volunteer their services. A Fire Chief typically holds the leadership position, however, titles and positions vary by each VFC. For example, a VFC may also have positions and titles, such as Deputy Fire Chief, Assistant Fire Chief, Captain, and a Chief Engineer. On the administrative side, there is commonly a President, Vice President, Secretary, and Treasurer, who oversee operations and the establishment of internal controls. The existence of a Board of Directors and an Audit Committee vary by each VFC

Is there any financial reporting and/or audit requirements for VFCs?

Each VFC has financial reporting requirements under Delaware Code 16, Section 6608. State Fire Commission (SFC) regulation 708 requires VFCs to submit a completed audit by an independent certified public accounting firm at a minimum "Review Level."[1] The audits are required to include a balance sheet, statement of revenue and expense, and statement of cash flow. Annual reporting is required to be completed within six (6) months of the close of the fiscal year. The Delaware Code gives the SFC authority to enforce this regulation by imposing a civil penalty of up to $100 a day for each day that an audit is late. The penalty is capped at $5,000 for VFCs that do not submit an audit. If a company has continued failure to submit an audit report or continued failure to make corrective action, the SFC can refer the VFC to the Auditor's Office, the Attorney General's Office, or the Internal Revenue Service.

Why did the OAOA complete this special report?

Each year the OAOA prepares a special report on the Volunteer Fire Service in Delaware. The purpose of the report is to shine a light on cost savings that result from having volunteer fire services and to acknowledge the importance of volunteer firefighters in Delaware.

State Auditor Kathy McGuiness also presents on internal controls and fraud, waste and abuse information as part of the annual Delaware Volunteer Firefighters Association Conference. The conference was cancelled this year, because of the COVID-19 pandemic. The OAOA distributed an internal control survey to each VFC instead, and those results and recommendations are included in this report to help VFCs reduce risk in key areas. We appreciate the spirit of cooperation embodied in those responses and hope the VFCs welcomes the best practice recommendations as an opportunity to further improve their internal controls.

The OAOA has previously conducted targeted investigations of specific entities where fraud, waste, and abuse have occurred. These investigations found many internal control failures. In 2016, the OAOA was part of the 2016 Task Force to help entities prevent future fraud by taking actions to improve their internal controls. The VFCs were provided with a comprehensive list of internal control best practices and oversight responsibility was emphasized to help guide the leaders in designing and implementing an effective control environment.

What are internal controls and how are they important to the volunteer fire service?

Internal control is defined by the Committee of Sponsoring Organization of the Treadway Commission (COSO) as a process, performed by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives related to operations, reporting, and compliance. The State of Delaware has adopted the COSO framework. The federal government had adopted a framework issued by the Government Accountability Office (GAO) commonly referred to as the "Green Book". Although these are two different frameworks, the GAO's Green Book does borrow or rely heavily on COSO.

IMPORTANCE OF VOLUNTEER FIREFIGHTERS

Volunteer firefighters devote a great deal of time and personal sacrifice to Delaware. They are the backbone of the VFC, providing social, community, and financial value. For over 200 years, they have been part of the fabric of our communities. Much has changed in firefighting technology, training, equipment, and type of service calls over time that has only further highlighted their importance.

Volunteer firefighter and emergency medical services play a critical role in emergencies, including: extinguishing fires, rescuing people and animals from vehicles and boating accidents, supporting a wide variety of weather disasters, assisting with suspected terrorism events, and supporting the more recent COVID-19 pandemic.

Volunteer firefighters devote approximately 5-8 hours per week between training and service. Over the course of a year, that total averages to 260-416 hours.

IMPORTANCE OF VOLUNTEER FIREFIGHTERS

It takes adequate training and resources to effectively protect the public. VFCs provide both monetary benefits (e.g., tax savings) and savings from lives and assets (e.g., properties, cars etc.). Given that these services provide such a critical value to the community, it is important to invest and provide incentives to those services so that the volunteer fire service continues to exist in the future.

Delaware is experiencing population growth, a higher retiree population, economic challenges, and hiring practices that are not keeping pace with the current volunteer firefighter attrition. Many recent reports have noted the decline in volunteer recruitment, retention, and training. In 2014, OAOA's Fire Service Report noted that there were 7,000 volunteers compared to 6,000 in 2020.

Number of Volunteer Firefighters in U.S. by Year*

Year	Number of Volunteer Firefighters	Year	Number of Volunteer Firefighters
1984	897,750	2002	816,600
1985	839,450	2003	800,050
1986	808,200	2004	795,600
1987	816,800	2005	823,650
1988	788,250	2006	823,950
1989	770,100	2007	825,450
1990	772,650	2008	827,150
1991	771,800	2009	812,150
1992	805,300	2010	768,150
1993	795,400	2011	756,400
1994	807,900	2012	783,300
1995	838,000	2013	786,150
1996	815,500	2014	788,250
1997	803,350	2015	814,850
1998	804,200	2016	729,000
1999	785,250	2017	682,600
2000	777,350	2018	745,000
2001	784,700		

The number of volunteer firefighters in the U.S reached a low in 2017. At the same time call volume has tripled in the past 30 years.

-Volunteer Fire Service Fact Sheet

VOLUNTEER FIREFIGHTER REVENUE STREAMS

Revenue totaled $57,882,921 in 2020 compared to $53,299,030 in 2019 – a year-over-year increase of 8.4%.

Revenue Streams

The OAOA sourced revenue collection data from the Grant-in-Aid Bill and the VFC financial statements. VFCs revenue streams consist of: Grant-in-Aid funding, fire insurance, ambulance taxes and levies, county subsidies, and state contributions. They also receive revenue in the form of donations, hall rental income, town grants, and investment income. Additionally, VFC's have various fundraising events during the year.

In mid-March 2020, Delaware took unprecedented actions and closed schools and businesses, and placed restrictions on travel and social gatherings to control the COVID-19 pandemic virus spread. The rapidly changing information has also created a great deal of uncertainty and much fear in the community. The pandemic will undoubtedly have a significant impact on the volunteer firefighter revenue streams this year, because of the economic disruption, as it has with other areas of Delaware's economy.

VOLUNTEER FIREFIGHTER COST SAVINGS

Cost Savings - Personal Time

The personal time donated by members of Delaware VFCs holds a monetary value as well. According to the National Volunteer Fire Council, the time donated by volunteer firefighters saves localities across the country an estimated $46.9 billion per year.[x]

$46.9 Billion

Cost Savings

The OAOA performed several different types of financial analysis to demonstrate cost savings from the perspective of annual replacement costs and property tax increases to support the benefits the volunteer firefighters program provides to Delaware.

Projected Financial Costs

The OAOA performed a cost analysis to provide an estimate of how much it would cost Delawareans to replace the volunteer fire service with a statewide employee paid fire service. We estimated a cost avoidance (savings) of $244,063,901.59 if Delaware continues to use the volunteer fire service. (See Appendix A).

More than $244 Million

Projected Costs per Assessed Property Value

The OAOA performed a cost analysis of the employed statewide volunteer fire and ambulance services to determine an estimate of the true cost and to provide an estimate of what the potential additional property tax increase (per $1,000 of assessed value) would be if the volunteer fire service discontinued in Delaware. We estimated that it would cost Delaware taxpayers an additional $10.34 for every $1,000 assessed property value annually if VFCs were to be transitioned to an employed statewide volunteer fire and ambulance service. (See Appendix B)

$10.35 per $1,000

About the
Pulse of Volunteer Fire
Internal Controls (IC) Survey

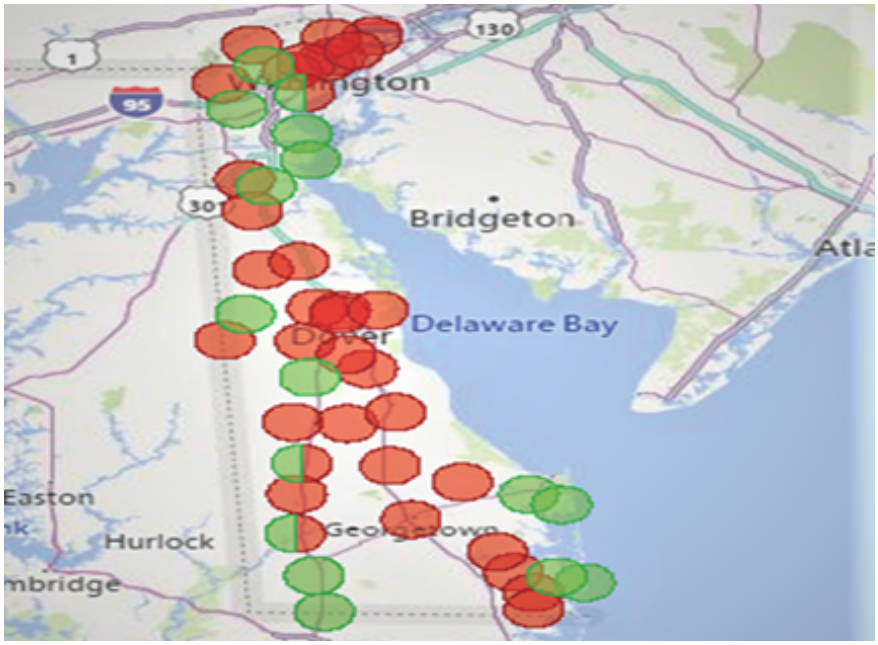
VOLUNTEER FIRE RESPONSES:

Volunteer Fire Company's Internal Control Surveys Sent	60
Volunteer Fire Company's Internal Control Surveys Received	18

The Delaware (OAOA) performed a Pulse of Internal Controls (IC) Survey as part of the 2020 Annual Fire Service Report. The survey was conducted online from September 22-29, 2020, with survey invitations distributed by the OAOA. The surveys were distributed using email addresses obtained from the SFC to Delaware's 60 VFCs.

The OAOA received a 30% response rate to the survey, with 18 total responses. Those who responded had titles that included: President, Treasurer, Fire Chief, Chief of Department, Administrator, and Bookkeeper or a combination of those positions. We did not receive any response from the remaining 42 VFCs. The OAOA previously conducted an internal control survey in 2016 in conjunction with the Fire Task Force and received a 100% response rate.

VFC INTERNAL CONTROL SURVEY RESPONSE



Red Circle: Survey Not Completed
Green Circle: Survey Completed

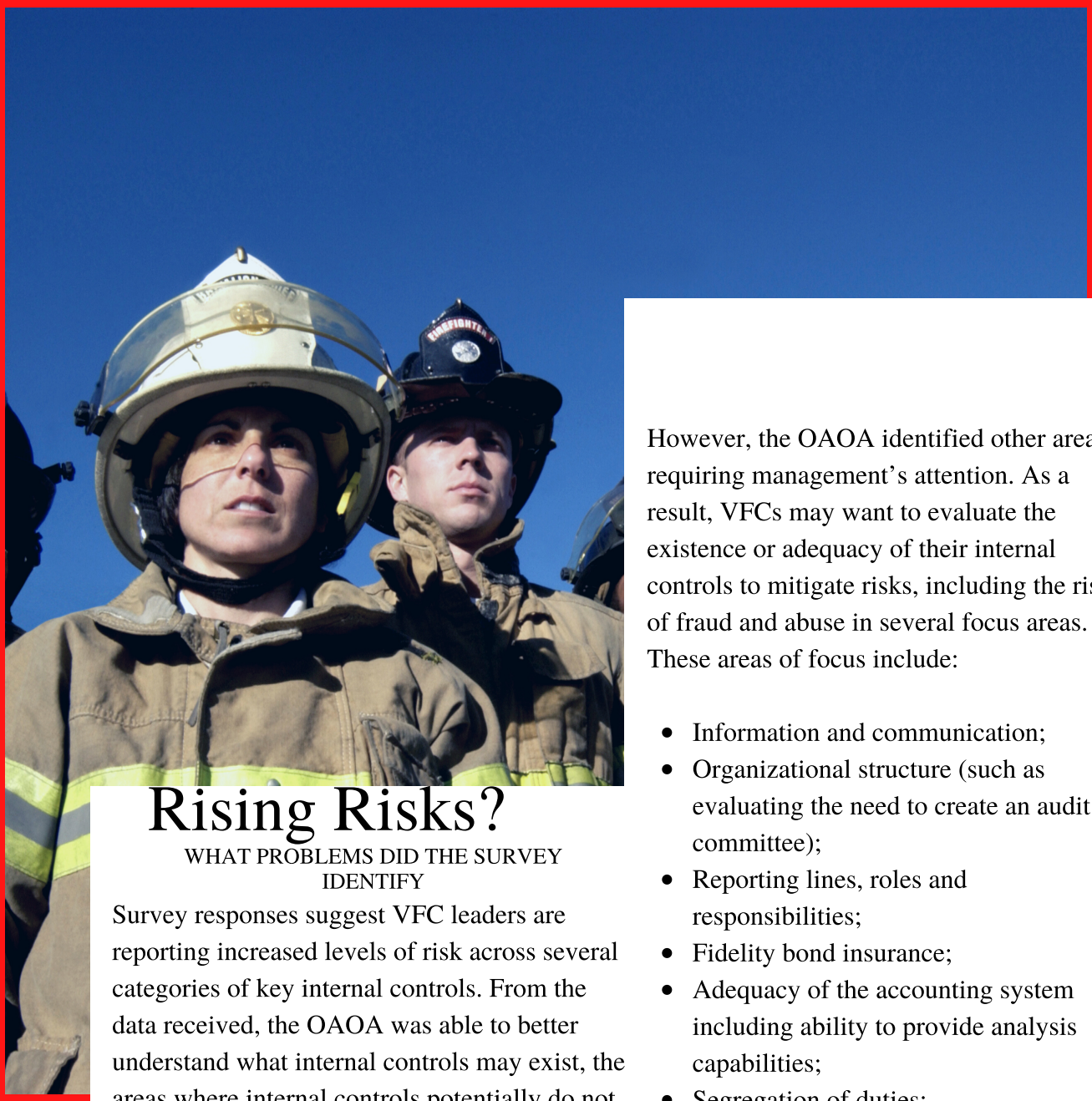
GOAL OF THE SURVEY

The goal of the survey was to get a "Pulse" on where internal controls stood in 2020. The OAOA specifically wanted to understand if key internal controls existed in areas where weaknesses were identified in prior surveys, since VFC management is responsible for establishing and maintaining an effective internal control environment.

The survey included questions related to the following key internal control areas and activities:

- **Board of Directors and Audit Committees Organizational Structures and Reporting Lines**
- **Roles and Responsibilities**
- **Segregation of Duties**
- **Policy and Procedure**
- **Authorizations and Approvals**
- **Physical Security of Checks**
- **Payment Controls – Credit Cards, Debit Cards**
- **Cash Controls**
- **Reconciliations and Verifications**
- **Record Retention**
- **Oversight and Monitoring**
- **Information and Communication**
- **Fidelity Bond Insurance**
- **Adequacy of the Accounting System**

Courtesy of the Hartly Volunteer Fire Company Website



Rising Risks?

WHAT PROBLEMS DID THE SURVEY IDENTIFY

Survey responses suggest VFC leaders are reporting increased levels of risk across several categories of key internal controls. From the data received, the OAOA was able to better understand what internal controls may exist, the areas where internal controls potentially do not exist, and/or where internal controls could be strengthened.

The OAOA received VFC responses indicating that internal controls were present in the following areas:

- Policy and procedures;
- Cash controls;
- Physical security of checks;
- Prevention of the use of debit cards;
- Prevention of cash withdrawals on credit cards; Monthly bank account reconcilements; and
- Record retention

However, the OAOA identified other areas requiring management's attention. As a result, VFCs may want to evaluate the existence or adequacy of their internal controls to mitigate risks, including the risk of fraud and abuse in several focus areas. These areas of focus include:

- Information and communication;
- Organizational structure (such as evaluating the need to create an audit committee);
- Reporting lines, roles and responsibilities;
- Fidelity bond insurance;
- Adequacy of the accounting system including ability to provide analysis capabilities;
- Segregation of duties;
- Approvals and authorizations;
- Check controls and the use of signature stamps;
- Inventory management controls; and
- Vehicle fueling controls

Internal control weaknesses can result in fraud and financial losses. When they become public, they can negatively impact the reputation of Delaware volunteer fire service.

VFCs, as non-profit entities, are responsible for all operations in support of their mission to fight and prevent fires, provide emergency medical services, and rescue Delawareans from a wide variety of dangerous situations. These entities also experience frequent turnover and attrition and other problems sometimes exist which can lead to fraud, waste, and abuse. Because of this complexity of the environment, it is important for the 2020 Delaware VFC to demonstrate good governance, fiscal responsibility, transparency, accountability, and efficiency and effectiveness in their internal control environment.

This means that these entities are obligated to maintain an adequate internal control environment, including collecting and maintaining proper records to help ensure they are open and accountable to the public. VFCs must maintain adequate documentation supporting their control environment to allow the public to be assured that resources are being used effectively, efficiently, and responsibly. Perhaps just as important, is that proper recordkeeping and documented policy and procedures preserve institutional memory so that management and their successors can make decisions informed by past results.

RECOMMENDATIONS

This report includes recommendations to help VFCs strengthen their internal controls. We have prepared a list of best practice recommendations based on the 2020 Pulse of Internal Control survey to assist VFCs in reviewing, updating, and enhancing their internal controls whether or not they responded to the survey.

1. Organizational Structure and Roles and Responsibilities

- Board of Directors Exercise of Oversight Responsibility. The Board must exercise its oversight responsibility. It should continue to ensure proper oversight of operations. The Board should ensure it receives the critical information that members need to provide a watchful eye on operations.

- Board of Directors/Officers Roles and Responsibilities. The roles and responsibilities of each position should be formally documented and a copy provided to each Board Member upon being elected or appointed to a position.

- Committees. Committees, including Audit Committees, should be established to assist in the oversight of the business processes, such as budgeting, investing, fundraising, hall rentals, and all other financial activities and processes to improve accountability and transparency.

2. Fidelity Bond Insurance

- Each VFC should purchase an insurance policy to protect itself against financial losses. The purchase of insurance policies, such as fidelity bond insurance to cover fraud, theft, and embezzlement is highly recommended.

3. Accounting System

- The accounting software that a VFC selects and uses should be easy to learn, widely recognized among the accounting industry, and allow for formal accounting records. A VFC may want to consider using QuickBooks if a current software application does not exist and it is relying on excel spreadsheets or other manual processes.

- A budget should be established that properly accounts for income and expenses. The budget should provide enough detail to allow for analysis of key functions, such as:

- Administrative
- Utilities
- Trustee-Buildings, etc.
- Vehicles-Maintenance and Operations
- Firefighting – Equipment and Supplies
- Ambulance-Equipment and Supplies
- Social Hall
- Entertainment
- Debt

- The annual budget should be reviewed and approved by the VFC's Board of Directors and/or the Company's membership.

RECOMMENDATIONS

4. Segregation of Duties

- An important aspect of internal control is the segregation of duties among members to prevent an individual member from handling duties that are incompatible. Management should assign key duties to different people so that no one individual has complete control of a process or a financial transaction. We realize segregation of duties is difficult with a limited number of staff. However, management should review existing processes to obtain the maximum internal control possible under their unique circumstance.

5. Signature Stamps

- It was previously recommended as part of House Concurrent Resolution 95 of the 148th General Assembly that signature stamps not be used. The OAOA continues to support this recommendation.

6. Approvals and Purchase Limits

- Purchase limits should be established requiring advanced approval from the Board of Directors and/or the Company's membership for purchases exceeding a specified limit (I.E. $3,000)
- Supporting documentation should be maintained for all expenditures with proper coding (i.e., invoices, receipts, purchase orders, approvals/authorizations, etc.) and reconciled to monthly statements.

7. Checks

- Checks should be signed by two (2) authorized unrelated individuals and verified to the supporting expense documentation.

8. Inventory Management

- Purchases and shipments should be compared to receipts or purchase orders to ensure that all items were received.
- Logs for equipment or capital assets should be updated when new items are received.
- Periodic inventory counts should be performed (at least annually).

9. Fuel Logs

- Fuel logs should be maintained for all vehicles.
- Fueling should be reconciled to fuel or credit card transactions.

10. Information and Communication

- VFC management should review its information and communication channels to ensure that personnel understand: what internal controls are; who in the entity has responsibility for what internal controls; and who to ask if there is a question on internal controls for the various processes and functions in the VFC. It would also be beneficial to document internal controls in writing and communicate internally to all personnel on an ongoing basis.

11. VFCs Financial Statements

- Each VFC provides an annual financial statement that the OAOA uses to compile the Fire Service Annual report. We observed that some of the VCFs provide paper-based records (e.g., handwritten financial statements) requiring additional OAOA resource time to prepare this report. We recommend VFCs provide their financial statements in an electronic format, such as an excel spreadsheet, starting with 2021.

APPENDIX A: PROJECTED COSTS AND EMPLOYED STATEWIDE FIRE SERVICE

Projected Costs of Employed Statewide Fire Service:

Salary and Fringe Benefits		$ 247,652,584.00
Equipment Purchases and Maintenance		19,396,487.64
Building Purchases and Maintenance[c]		21,641,721.36
Fuel and Utilities		4,275,659.64
Insurance Premiums		4,588,933.44
Employee Apparatus		4,853,520.00
Total Projected Cost		$ 301,946,822.92
Less Current Revenue Sources:		
Grant-in-Aid[xi]	$ (6,728,317.00)	
Fire Insurance[xii]	(29,872,451.00)	
Ambulance Taxes and Levies[xiii]	(9,603,258.33)	
County Subsidies[xiv]	(9,736,895.00)	
State Contribution to DVFA fund[xv]	(1,942,000.00)	
Subtotal		$ (57,882,921.33)
Total Cost Avoidance		**$ 244,063,901.59**

APPENDIX B: PROJECTED PROPERTY TAX INCREASE

Salary and Fringe Benefits plus DPERS Employer Contribution		$ 10.48
Equipment Purchases and Maintenance		0.82
Buildings Purchases and Maintenance		0.90
Fuel and Utilities		0.18
Insurance Premiums		0.19
Employee Apparatus		0.21
Total Projected Cost		$ **12.78**
Less Current Revenue Sources:		
Grant-in-Aid	$ (0.28)	
Fire Insurance	(1.26)	
Ambulance Taxes and Levies	(0.41)	
County Subsidies	(0.41)	
State Contribution to DVFA Fund	(0.08)	
Subtotal		$ (2.44)
Net Increase in Property Tax		$ **10.34**

APPENDIX C: DETAILED COST SAVINGS INFORMATION

Detailed Cost Savings

Cost for a Non-Volunteer Fire Department

Wilmington Population[xvi]	70,166
Wilmington Fire Stations[xvii]	6
Total number of employees	161
Estimated employees per Station[xviii] (Employees/Number of Stations)	27

State Demographics

State Population[xix] (excluding Wilmington)	903,598
Total Assessed Property Value[xx]	$27,177,681,867
Wilmington Assessed Property Value[xxi]	$3,541,786,664
Number of Volunteer Stations	84
Total employees needed (27 per station)	2,268

Detailed Cost Savings

We reviewed and analyzed information from the six paid City of Wilmington Fire Department stations (WFD) to calculate the cost of a non-volunteer fire department. We used the WFD information as the basis to calculate and determine cost savings including: population count; number of Wilmington fire stations; size of community served per fire station; current number of firefighters (WFD); estimated employed (WFD) firefighters per station; and the average salary and fringe benefits for paid Wilmington firefighters. Based on the detailed cost savings calculations, we applied this cost information to the Delaware VFCs to determine what the cost savings are for this service.

APPENDIX D: EQUIPMENT & REPLACEMENT COSTS

Equipment	Cost ($)	Average Life Expectancy	Estimated Number of Equipment per Year (84 stations/avg life expectancy)	Total Cost per Year ($)
Engine	700,000	18	4	2,800,000
Ambulance	215,000	7	12	2,000,000
Brush Truck	100,000	13	6	600,000
Rescue Truck	850,000	20	4	3,400,000
Aerial Truck*	1,000,000	20	2	2,000,000
Tanker Truck*	400,000	20	2	800,000
Utility Vehicle	50,000	9	9	450,000
Pumper Tanker*	600,000	18	2	1,200,000
			Equipment Total	**$ 13,830,000**
			Plus Maintenance	**$ 6,221,368**
			Grand Total	**$ 20,501,368**

Equipment Costs and Replacement Costs

We performed an analysis of equipment costs, obtaining current cost estimates on various equipment types from Brian Batista, Sr. Vice President of Sales for Atlantic Emergency Solutions. We obtained average useful life expectancy information from the Dover Fire Company. The OAOA determined the useful life of equipment per year for the 84 volunteer fire stations units and calculated the cost per year for each piece of equipment.

PHOTO COURTESY OF THE GEORGETOWN FIRE STATION WEBSITE

APPENDIX E: EQUIPMENT & REPLACEMENT COSTS

Equipment Costs

Salary and fringe benefits were calculated by multiplying the average salary and fringe benefits for current WFD employees ($108,338) by the total employees needed (2,268). DVFA employer pension contributions ($1,942,000) were then added to this amount. The total estimated is $247,652,584.

Building and Maintenance

Building purchases and annual maintenance were estimated to be $21,641,721 per year. Buildings were estimated to have a life expectancy of 20 years.

Fuel and Utilities

Fuel and Utilities were estimated to be $4,275,659.64. The fuel and utilities were estimated based on annual reports submitted by the fire companies.

Insurance Premiums

Insurance premiums were estimated to be $4,588,933.44 based on annual reports submitted by fire companies. Insurance premiums were calculated using a simple average calculation from a detailed listing provided by each fire company.

Employee Apparatus

An employee apparatus was estimated to be ($21,400) per firefighter, with an estimated life expectancy of 10 years. The statewide equivalent for 2,268 firefighters is $4,853,520 annually.

Volunteer Fire Service and Ambulance Training

The Delaware State Fire School, under the guidance of the State Fire Prevention Commission, provides fire, rescue, emergency medical training, and public fire safety education to the fire and rescue service, as well as to industry and citizens of our state. Instructors conduct training sessions in both classroom settings and simulated facilities using actual conditions at three regional training centers, with one located in each of our three counties.
During Fiscal Year 2020, the Delaware State Fire School trained 7,245 students in Fire and Rescue and 3,138 in Emergency Medical Service. These numbers are down considerably due to COVID-19 affecting spring training.

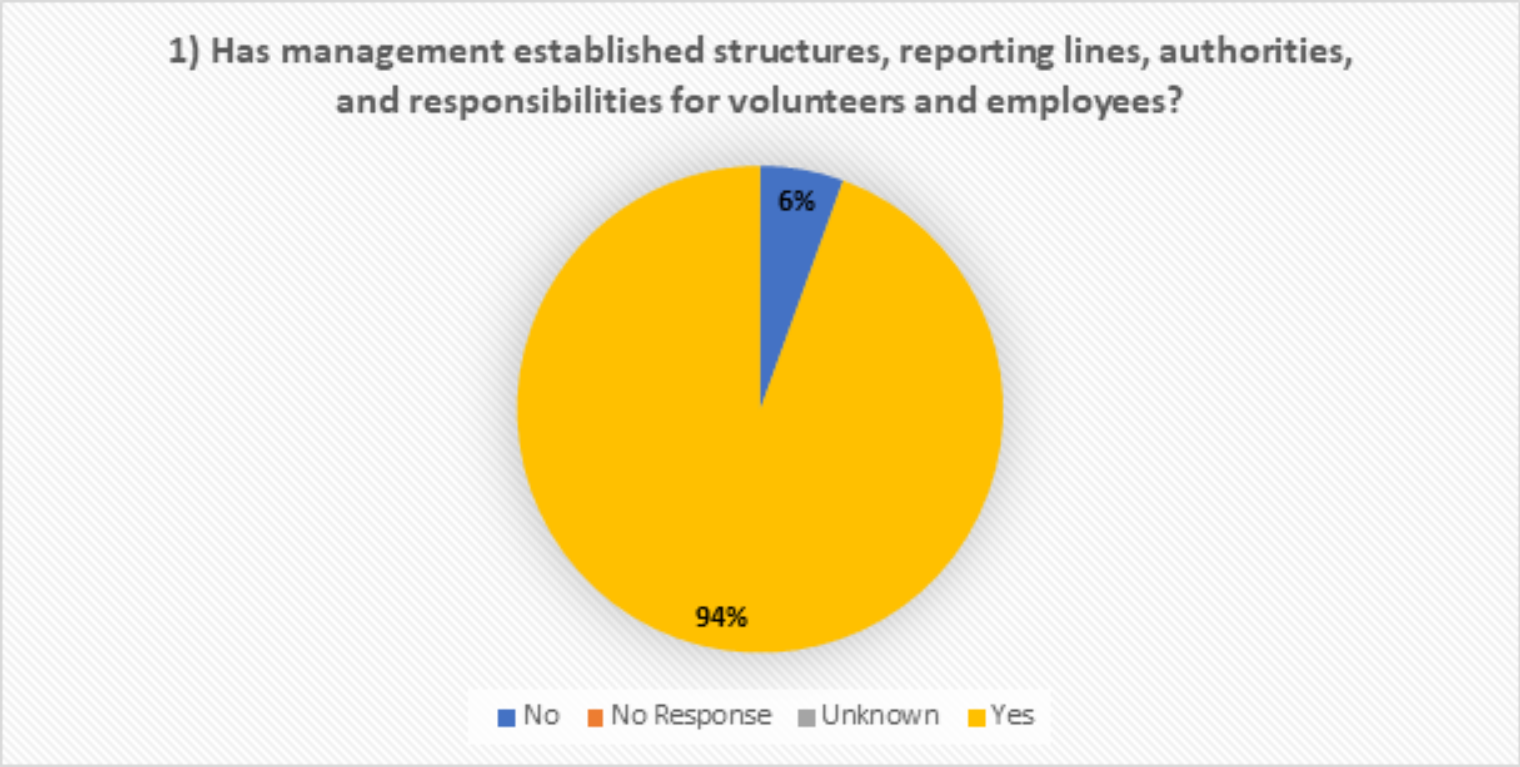
APPENDIX E: METHODOLOGY FOR PROJECTED COST SAVINGS

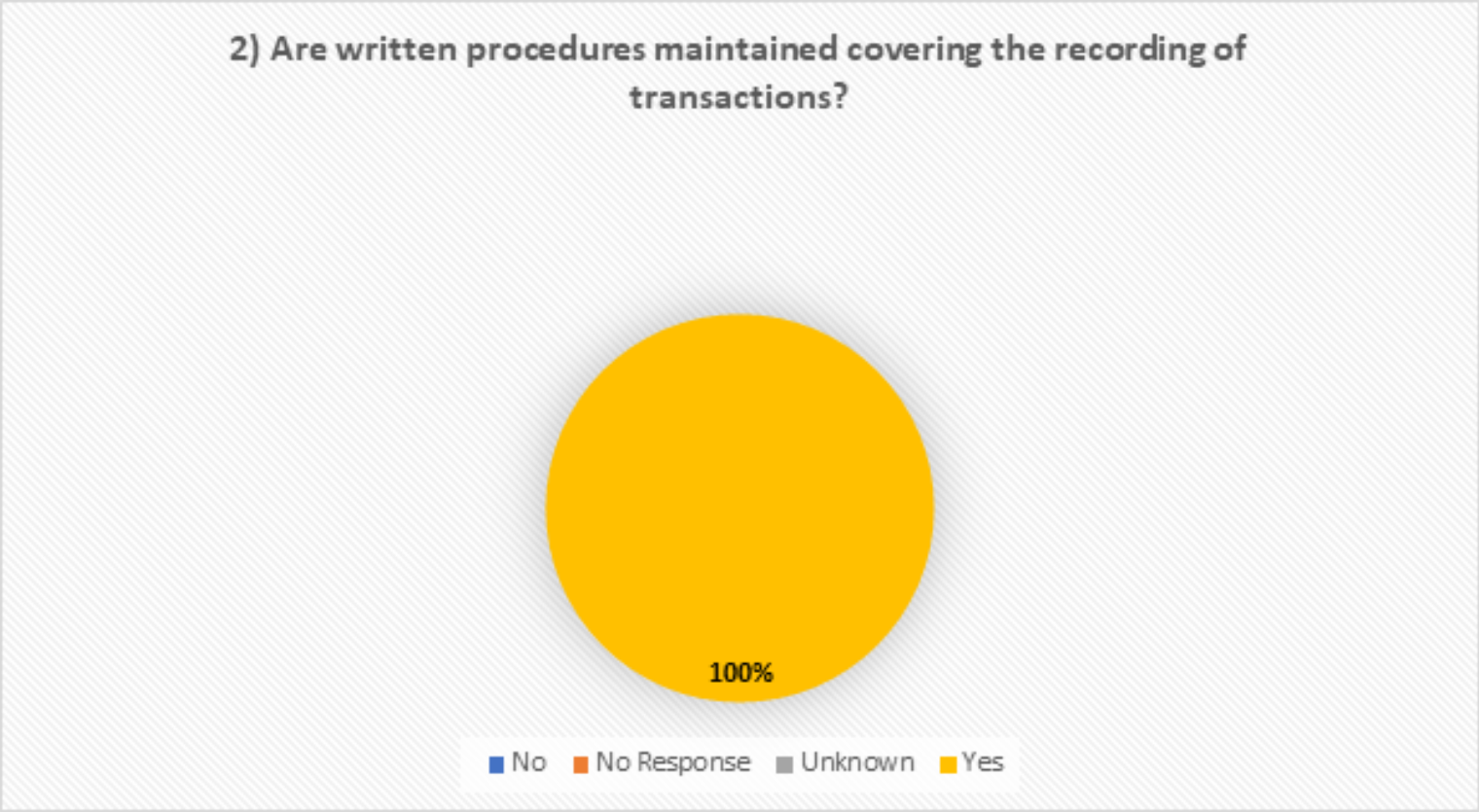
We calculated what the additional property tax would be for each individual Delaware property owner based on a per $1,000 of the assessed property value, using the existing costs for the Wilmington Fire Department. We used that calculation as the basis of determining the projected cost for each of the expense and revenue line items. We calculated each of the cost categories, and then totaled that calculation and we calculated each revenue source and then totaled that calculation. We subtracted $2.44 total revenue from $12.78 total project cost calculation to provide the net increase in property value of $10.34.

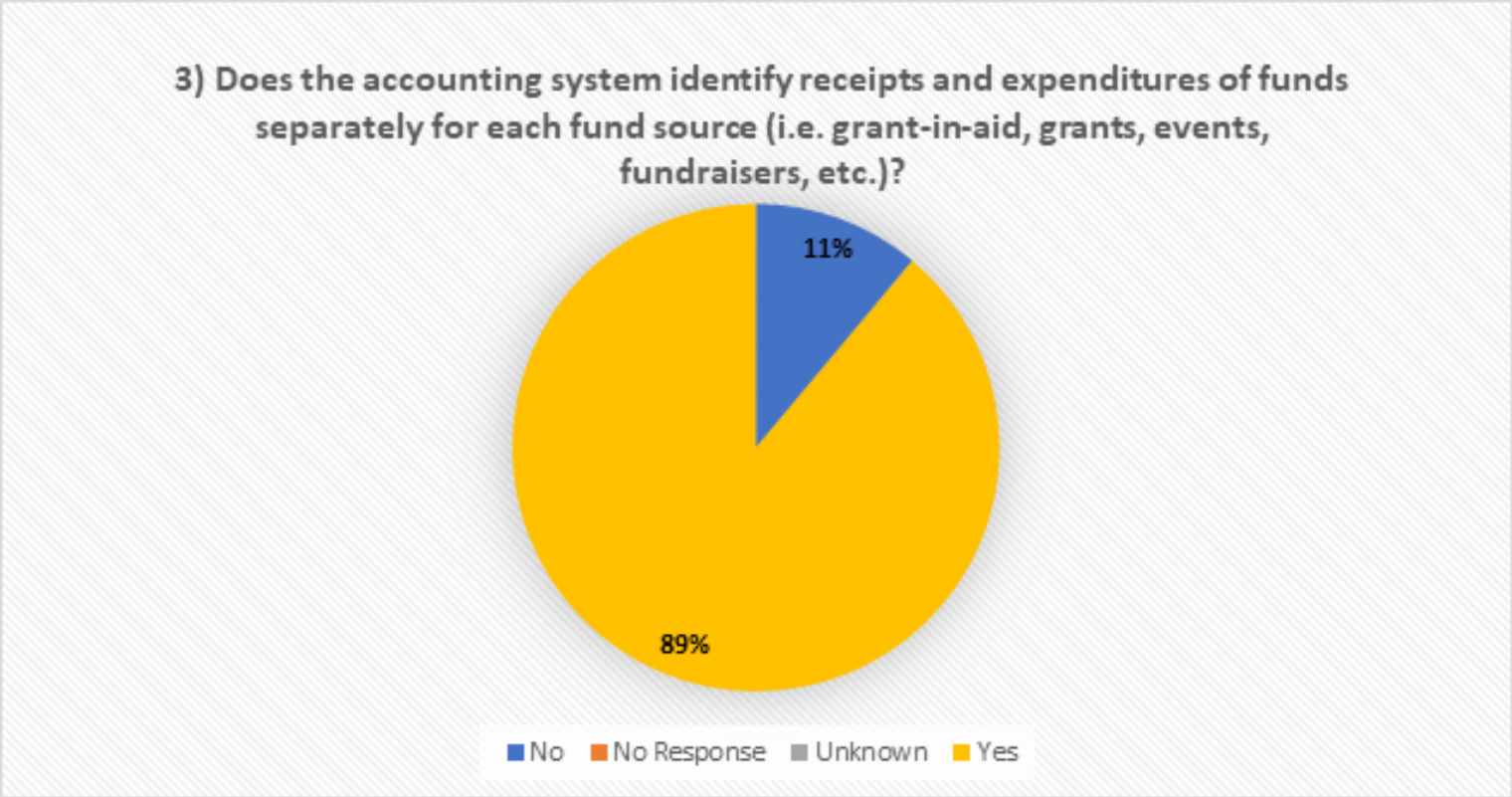
We used several sources to prepare the different calculation inputs and assumptions. We excluded the Wilmington data in performing calculations. The State population (less the City of Wilmington population) was obtained from the U.S. Census Bureau. We obtained the assessed property values (less the City of Wilmington) from the Delaware Department of Education and the City of Wilmington. We used the existing number of station units from the Grant-In Aid bill. We identified the number of employees needed per individual fire station, using a calculation based on the total employees from the six Wilmington fire stations.

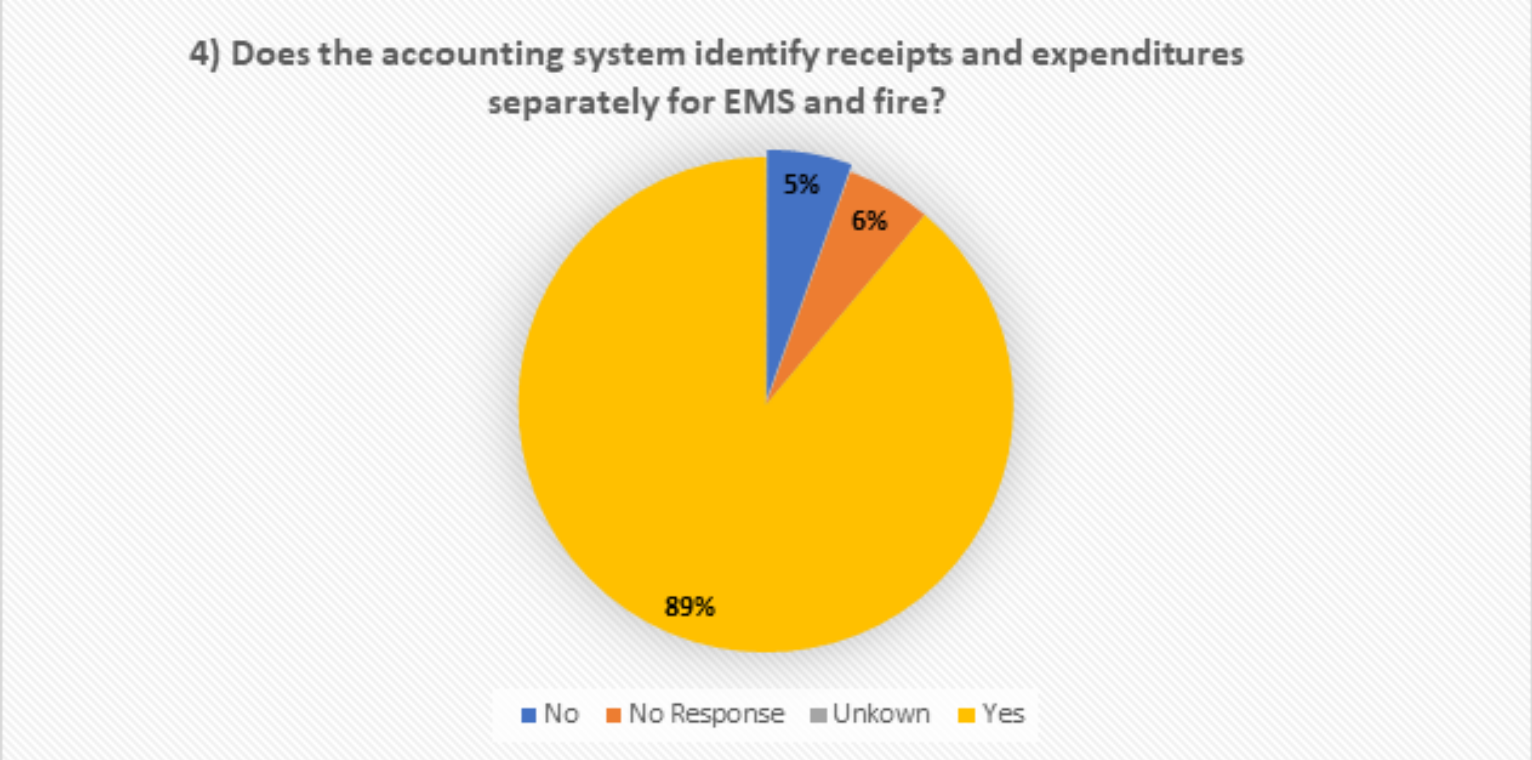
We obtained the revenue and costs from the fire station companies annual financial statements. We obtained the pension costs from Delaware Volunteer Firefighters Employer Contributions Fiscal Year 2019 DPERS CAFR report. We obtained the employee apparatus information from Atlantic Emergency Solutions specific to costs to outfit each fire fighter with breathing apparatus and fire safety gear and the fire apparatus replacement information from the National Fire Protection Association (NFPA).

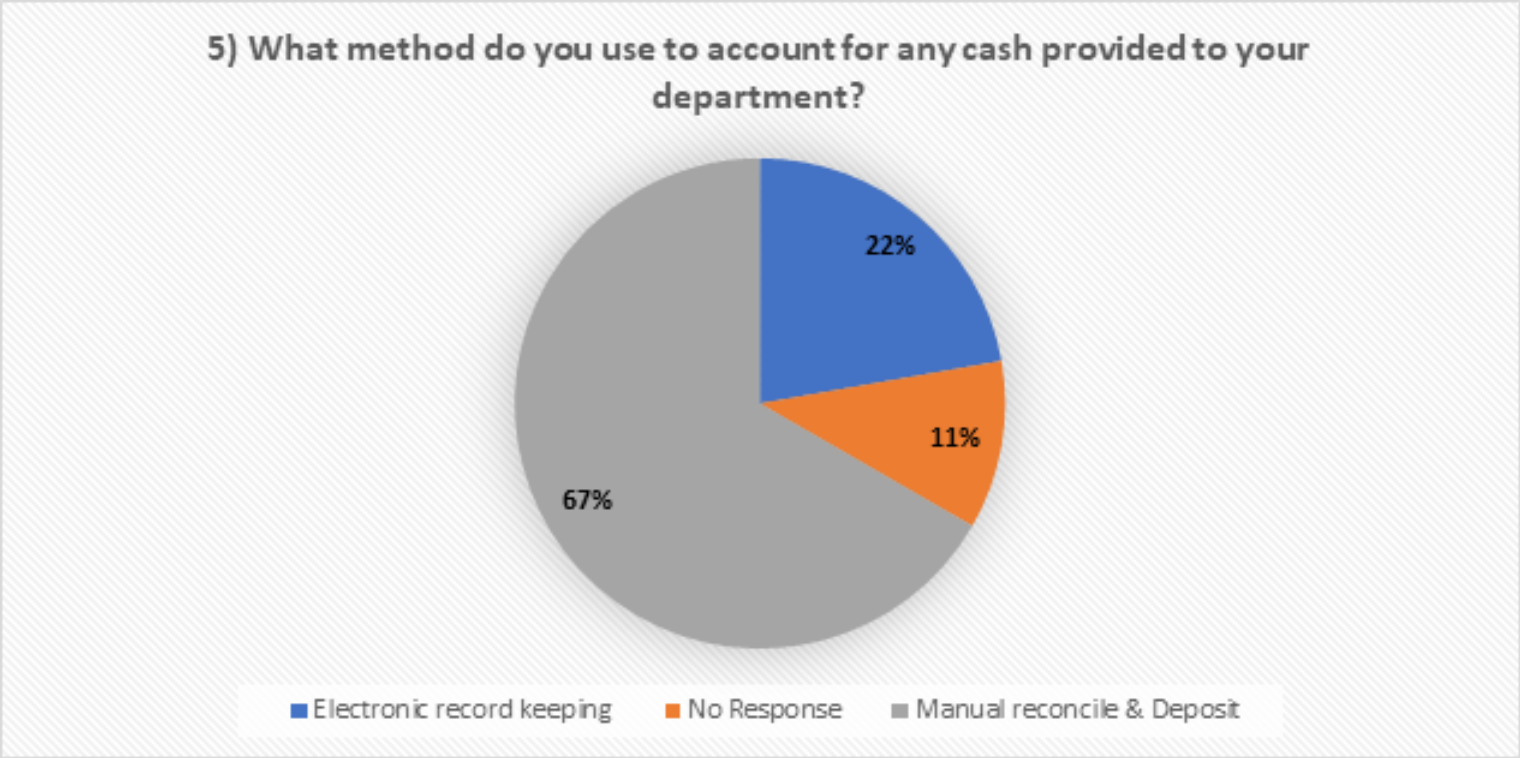
APPENDIX F: INTERNAL CONTROLS SURVEY

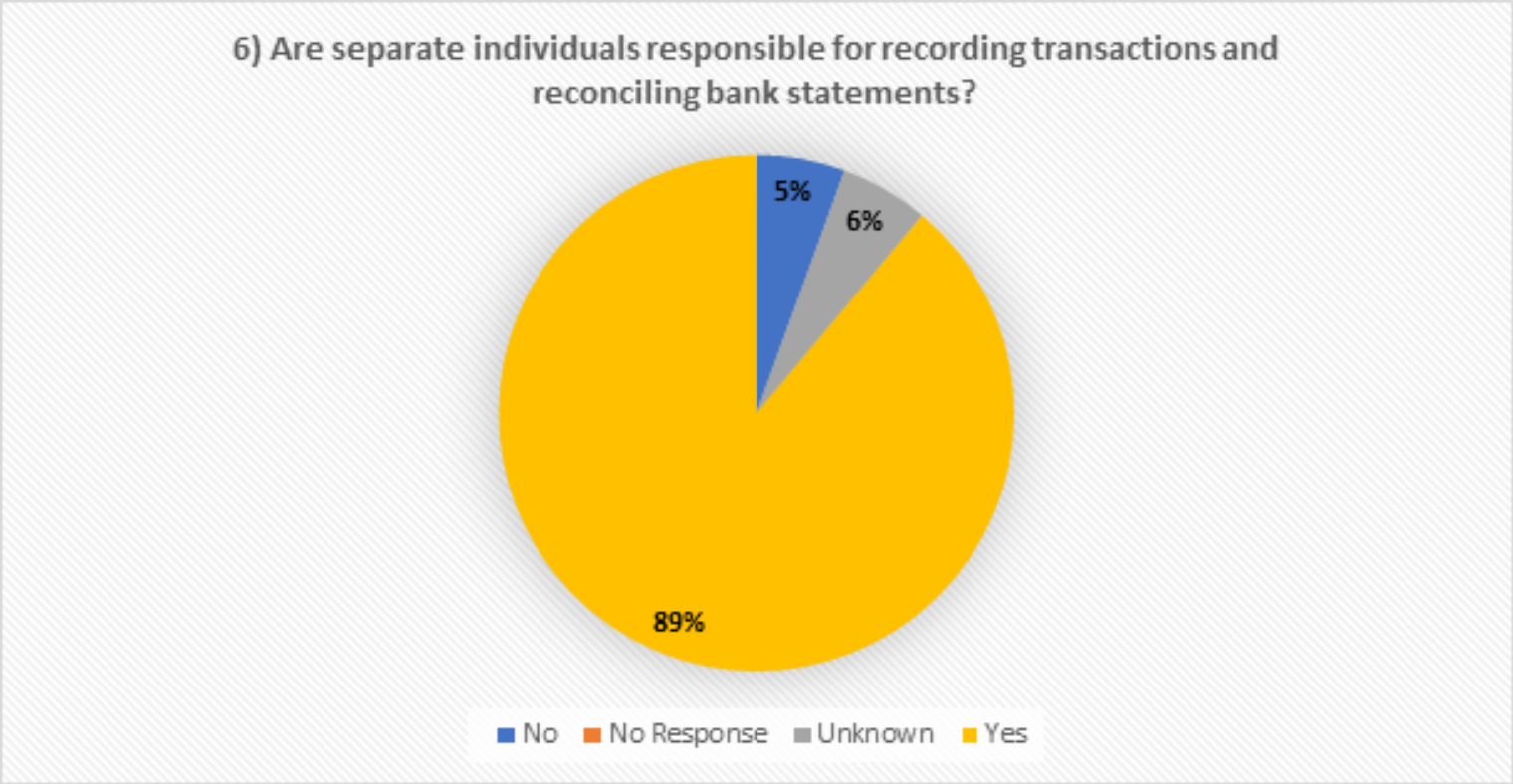


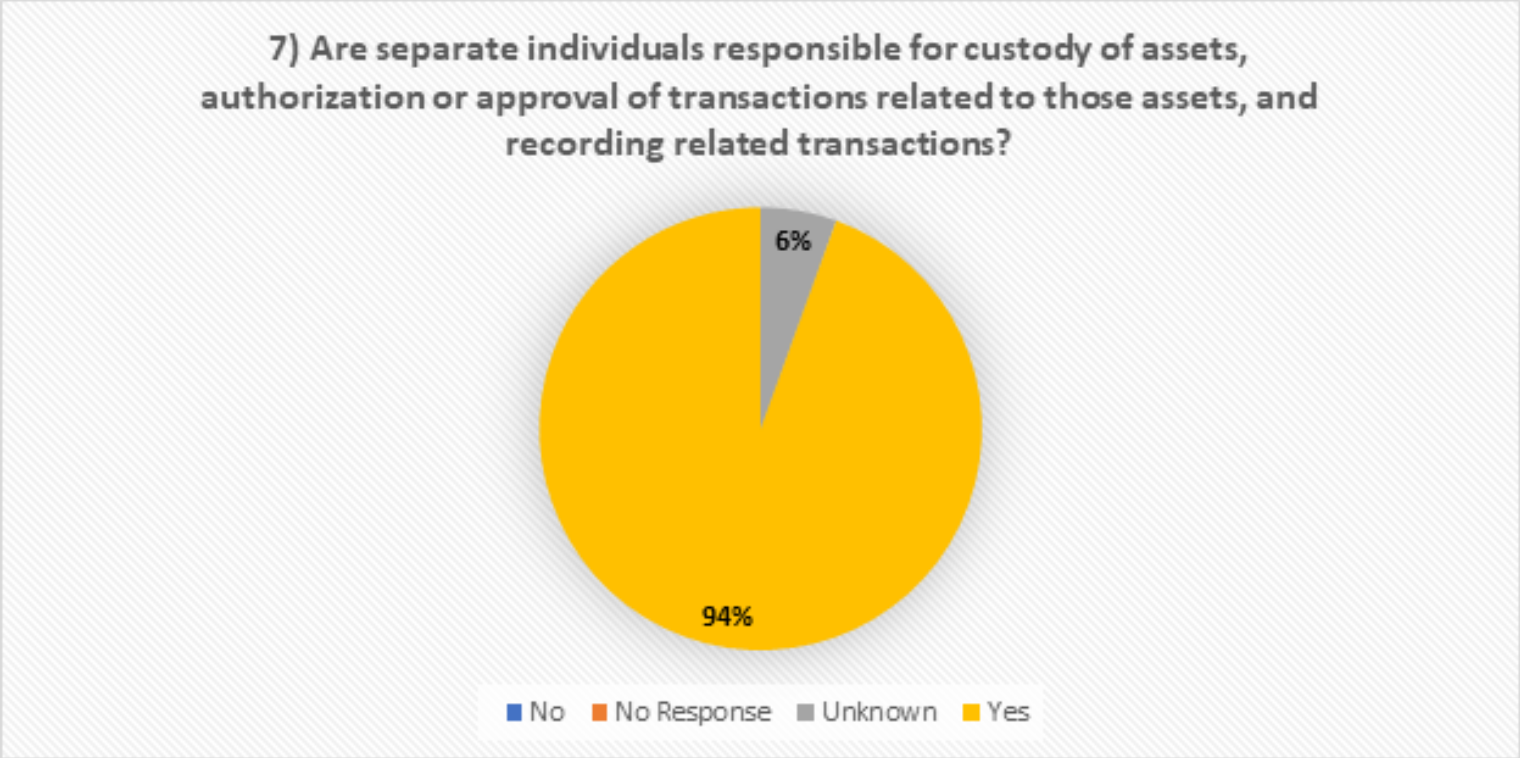


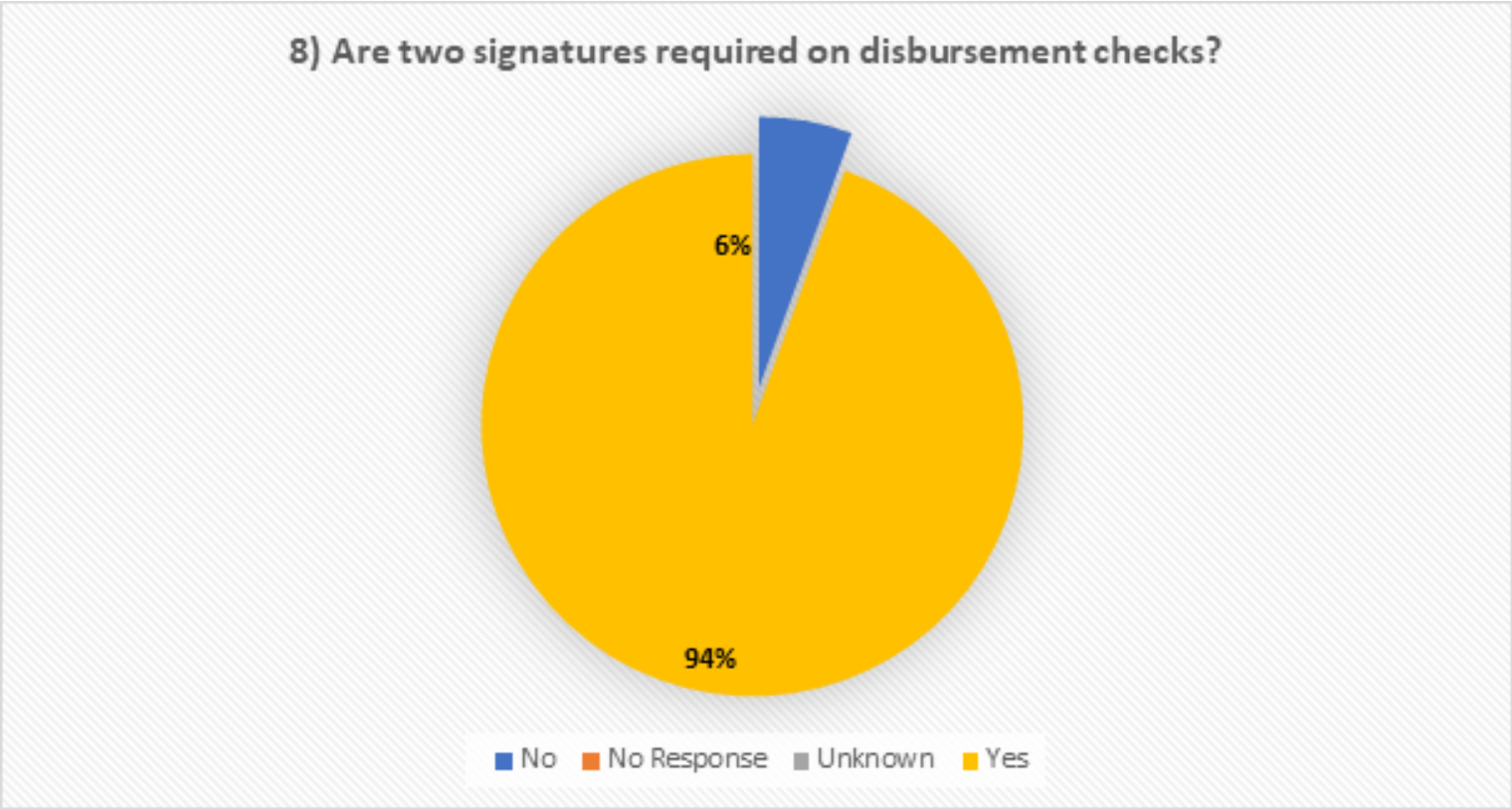

3) Does the accounting system identify receipts and expenditures of funds separately for each fund source (i.e. grant-in-aid, grants, events, fundraisers, etc.)?
11%
89%
No
No Response
Unknown
Yes

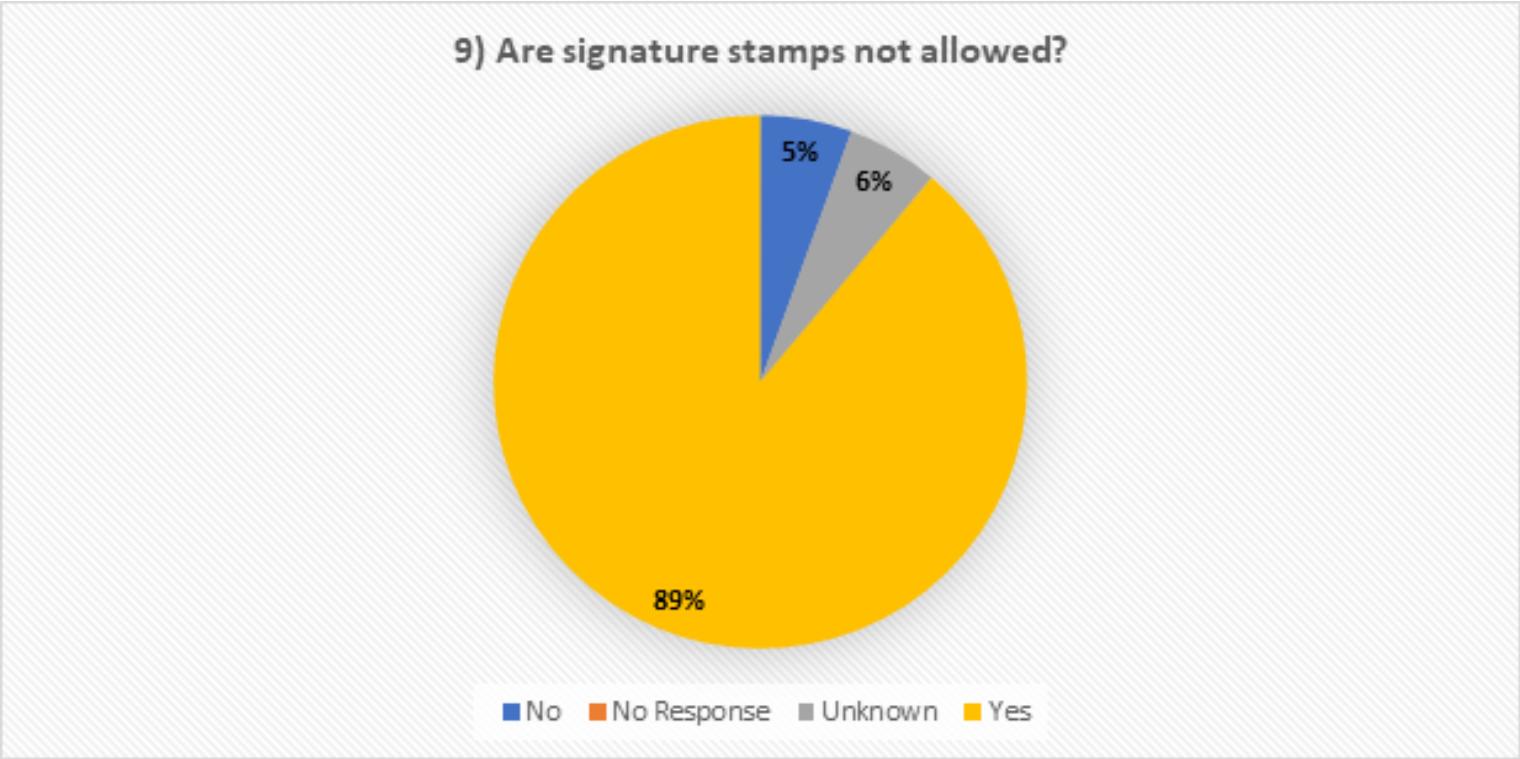

4) Does the accounting system identify receipts and expenditures separately for EMS and fire?
5%
6%
89%
No
No Response
Unkown
Yes

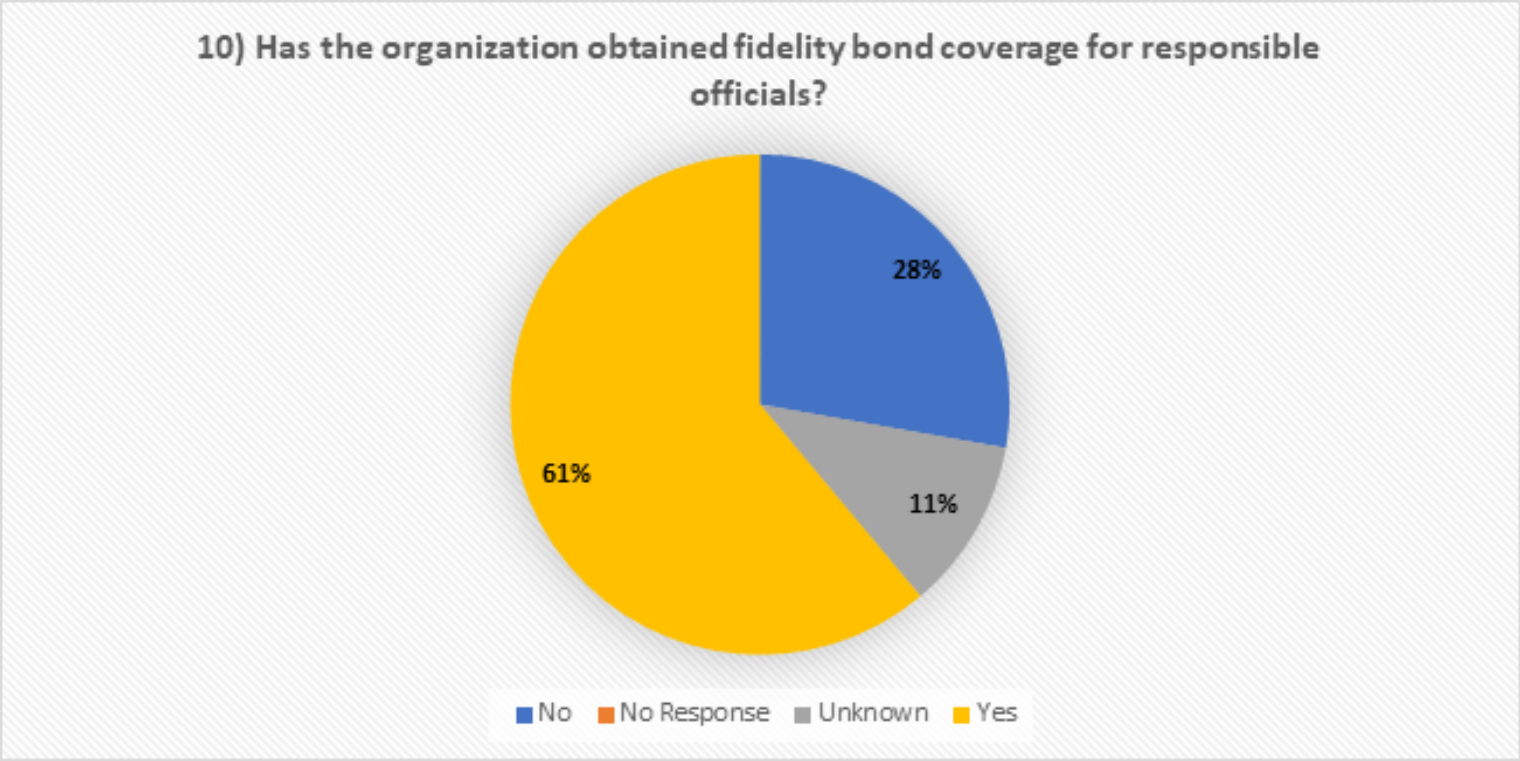

5) What method do you use to account for any cash provided to your department?
22%
11%
67%
Electronic record keeping
No Response
Manual reconcile & Deposit

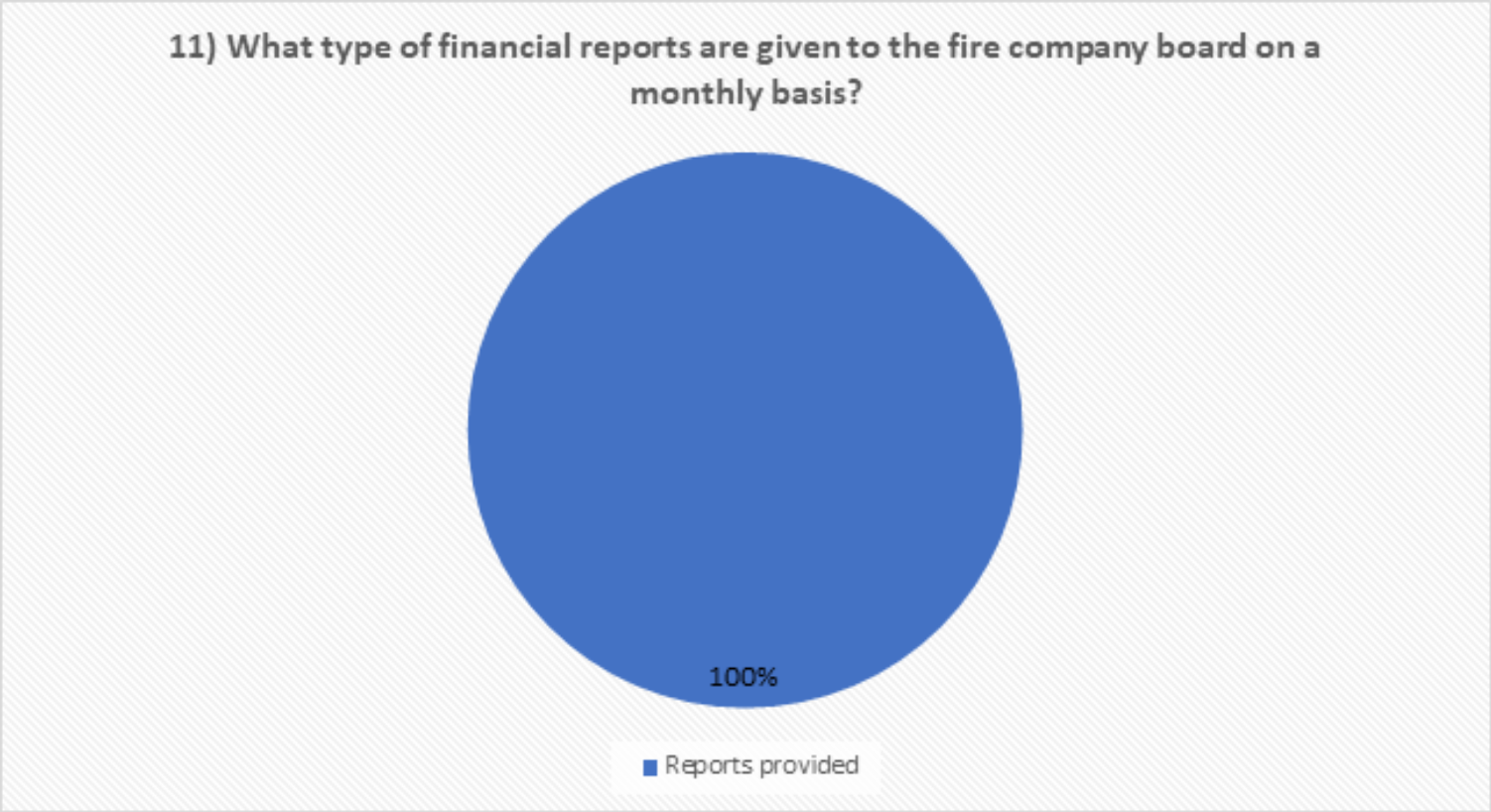

6) Are separate individuals responsible for recording transactions and reconciling bank statements?
5%
6%
89%
No
No Response
Unknown
Yes

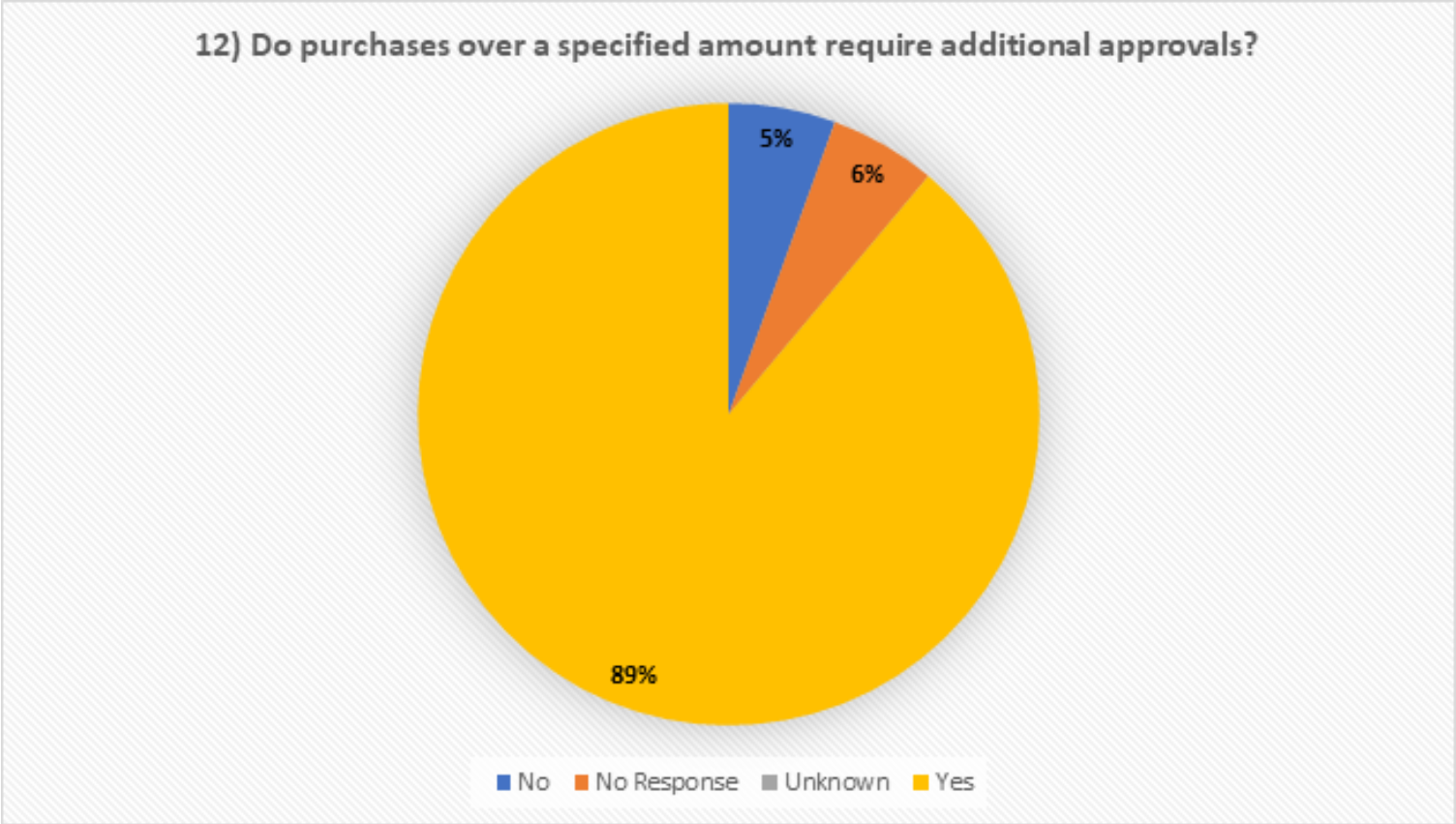

7) Are separate individuals responsible for custody of assets, authorization or approval of transactions related to those assets, and recording related transactions?
6%
94%
No
No Response
Unknown
Yes

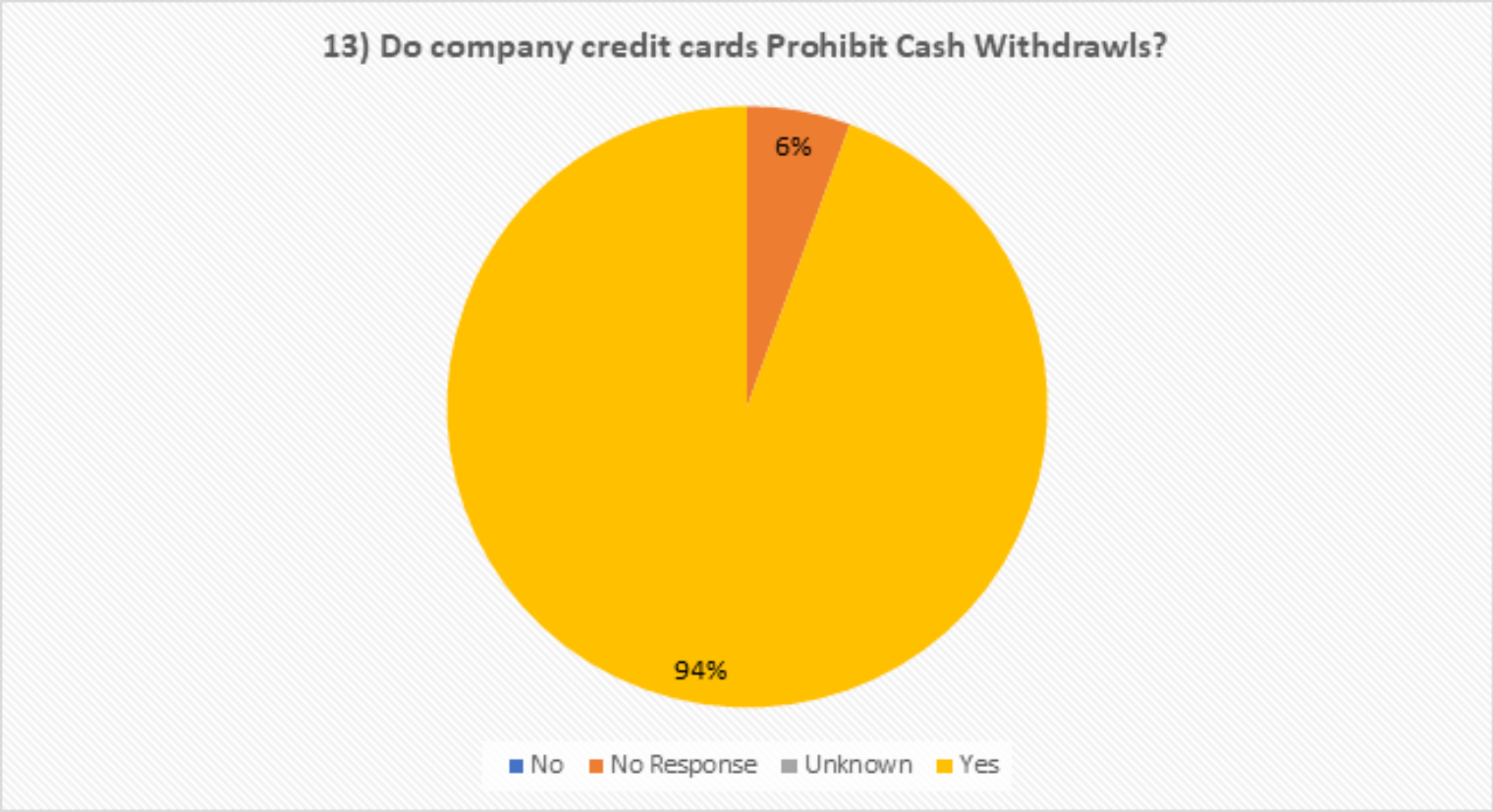

8) Are two signatures required on disbursement checks?
6%
94%
No
No Response
Unknown
Yes

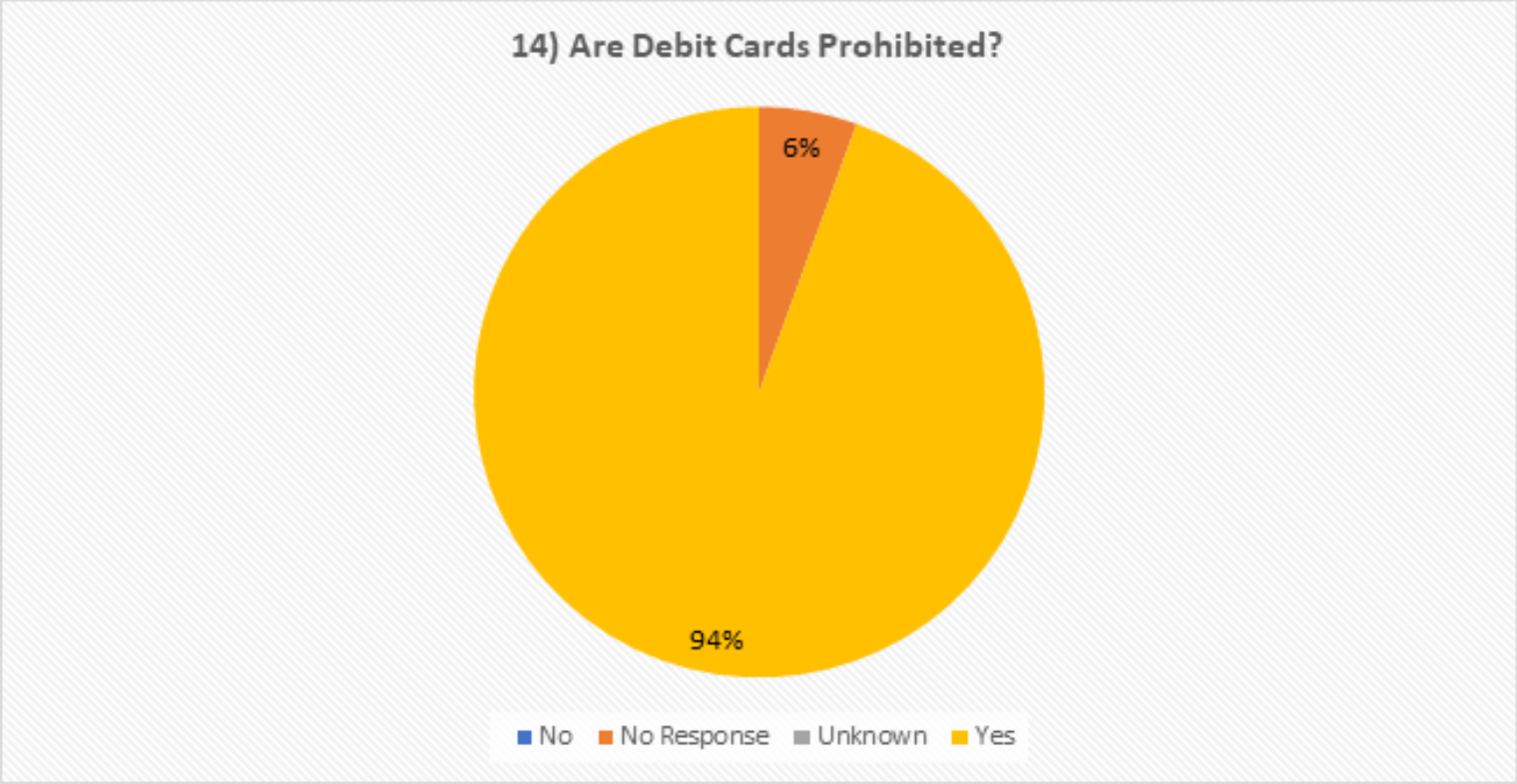

9) Are signature stamps not allowed?
5%
6%
89%
No
No Response
Unknown
Yes

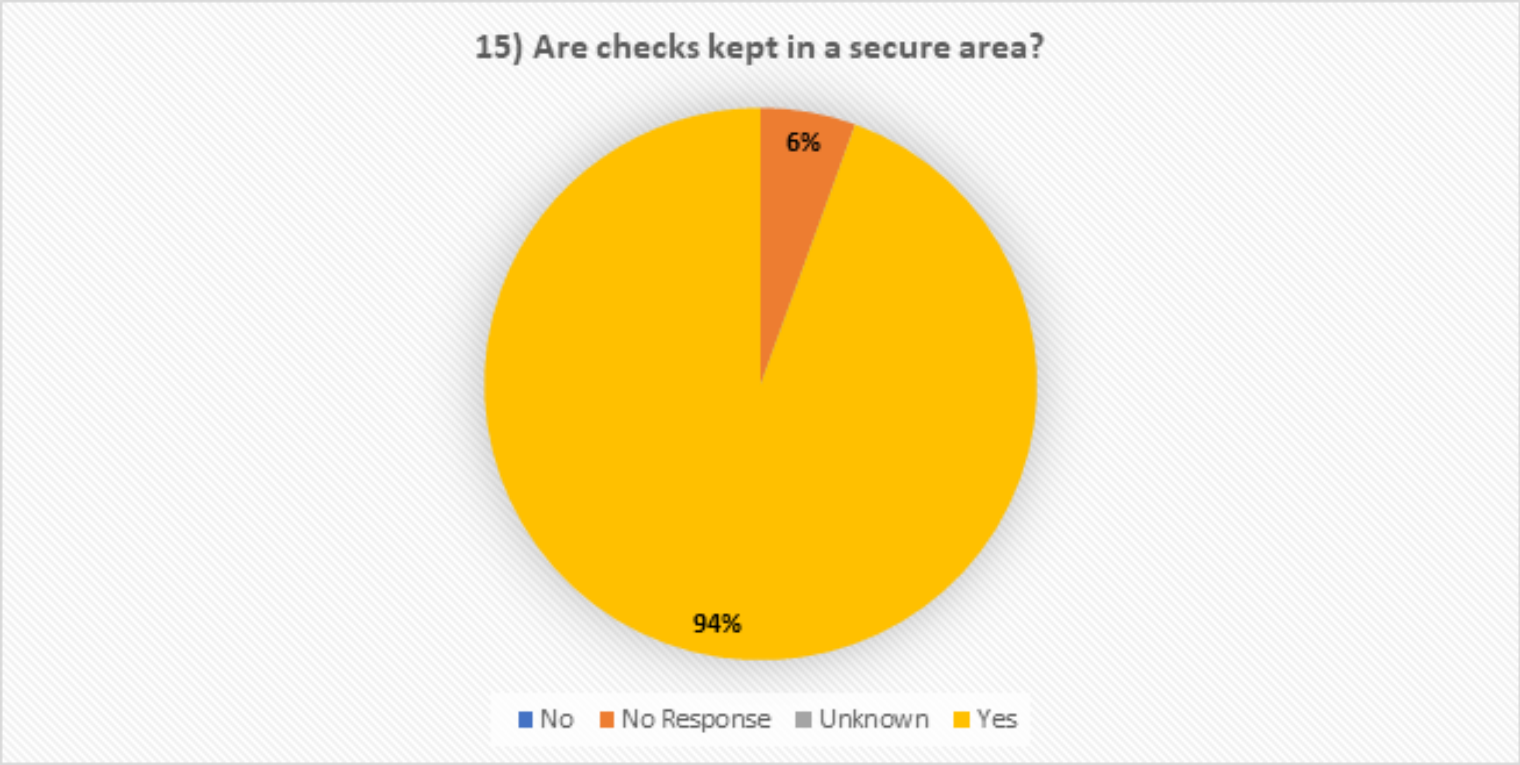

10) Has the organization obtained fidelity bond coverage for responsible officials?
28%
61%
11%
No
No Response
Unknown
Yes

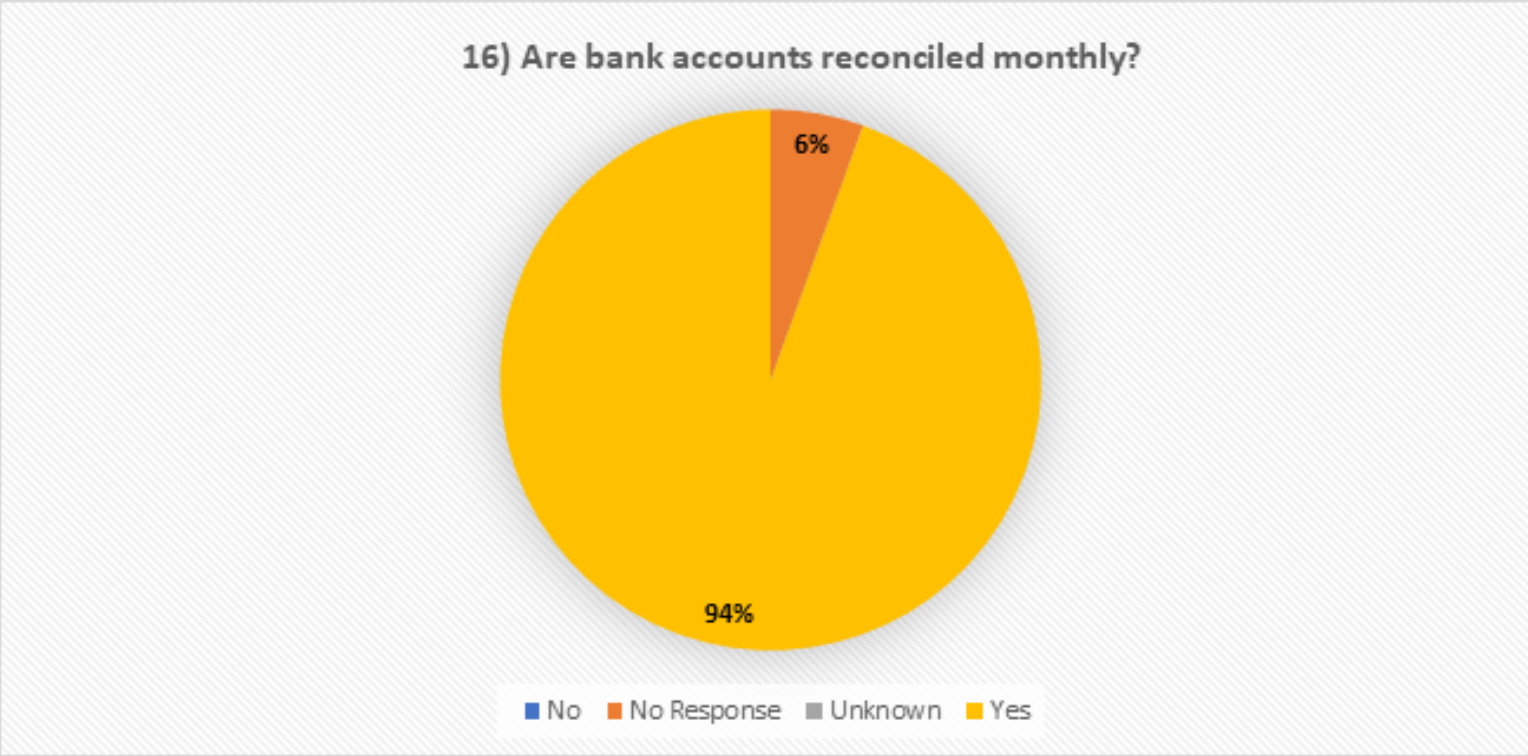

11) What type of financial reports are given to the fire company board on a monthly basis?
100%
Reports provided

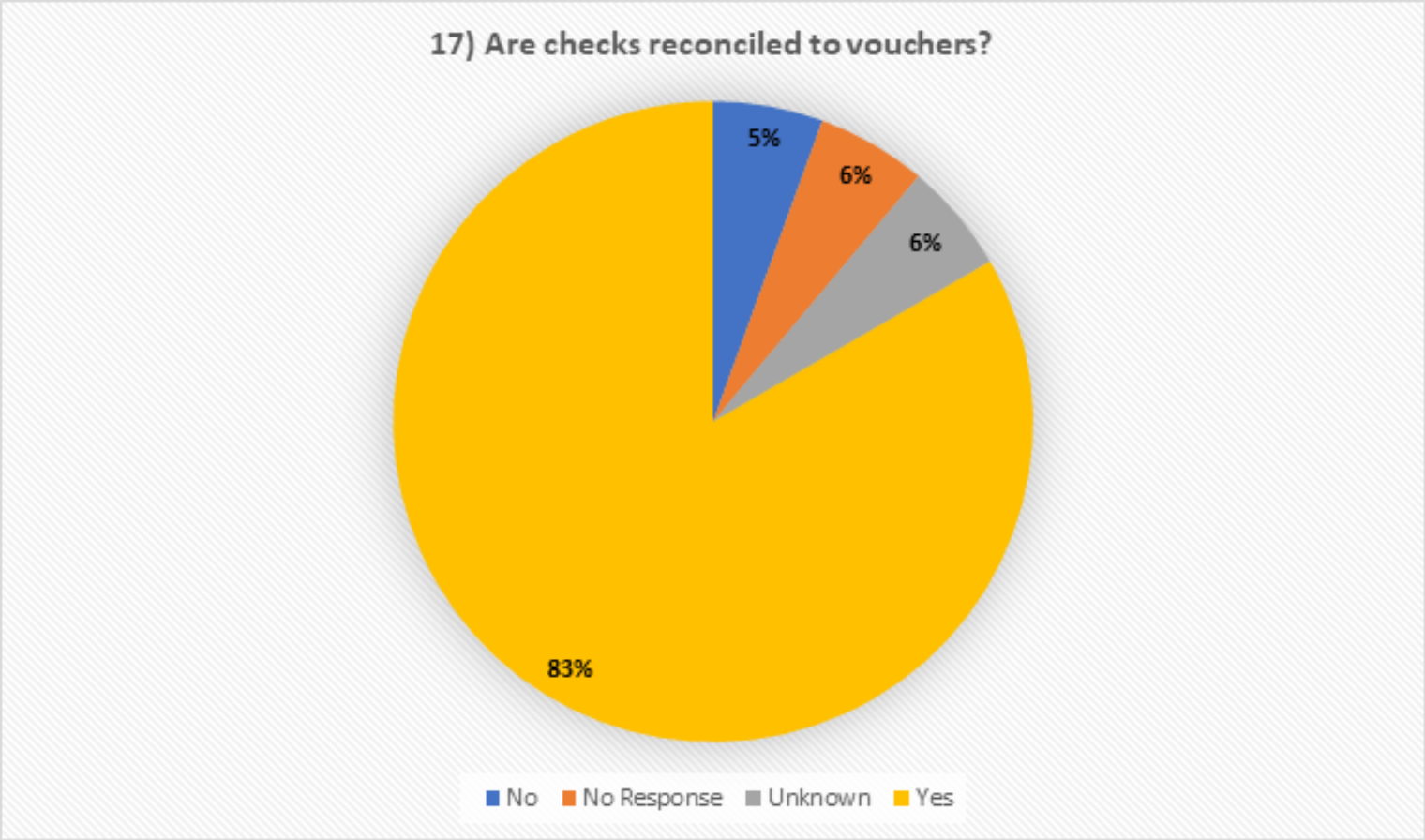

12) Do purchases over a specified amount require additional approvals?
5%
6%
89%
No
No Response
Unknown
Yes

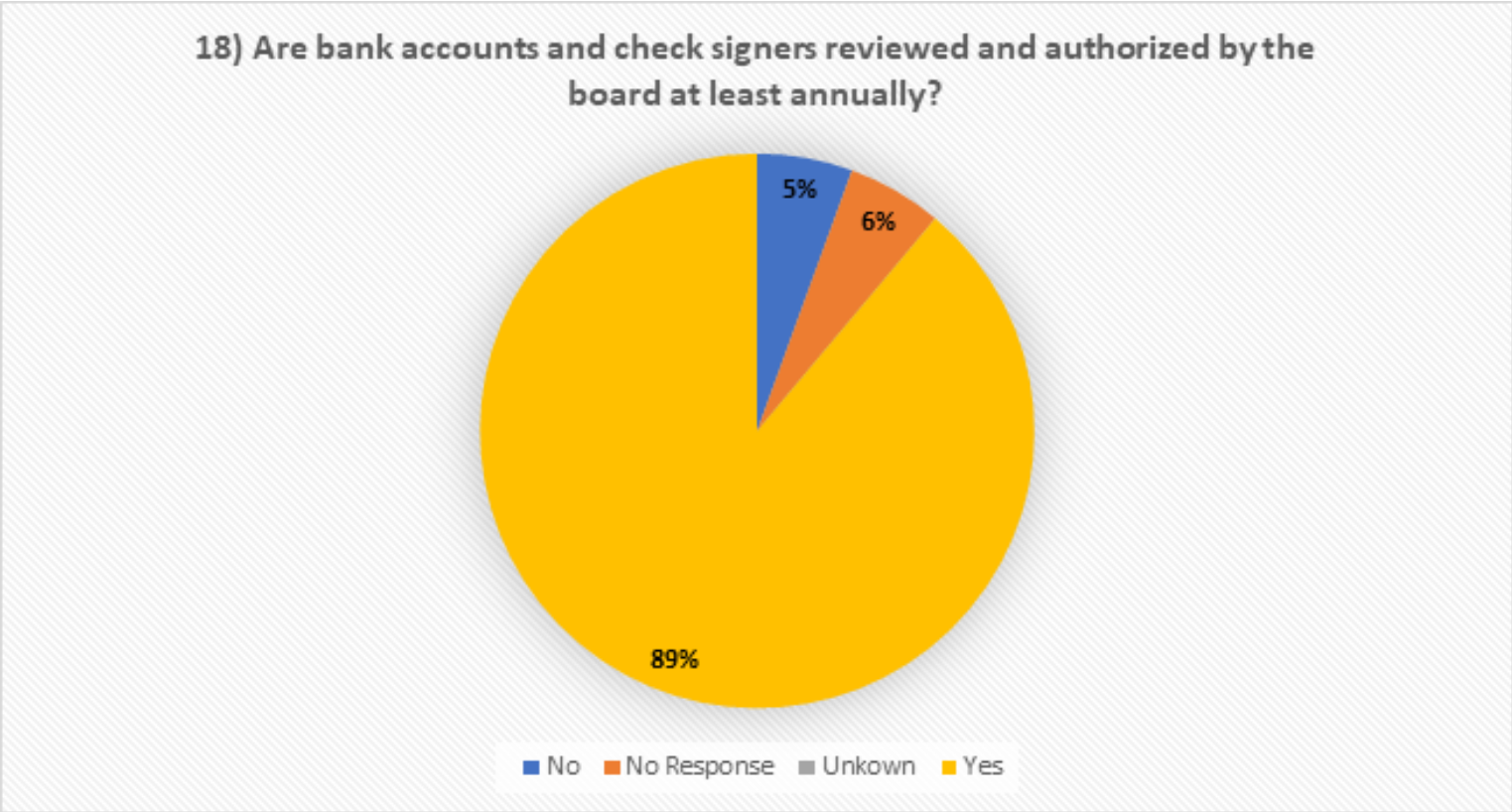

13) Do company credit cards Prohibit Cash Withdrawls?
6%
94%
No
No Response
Unknown
Yes

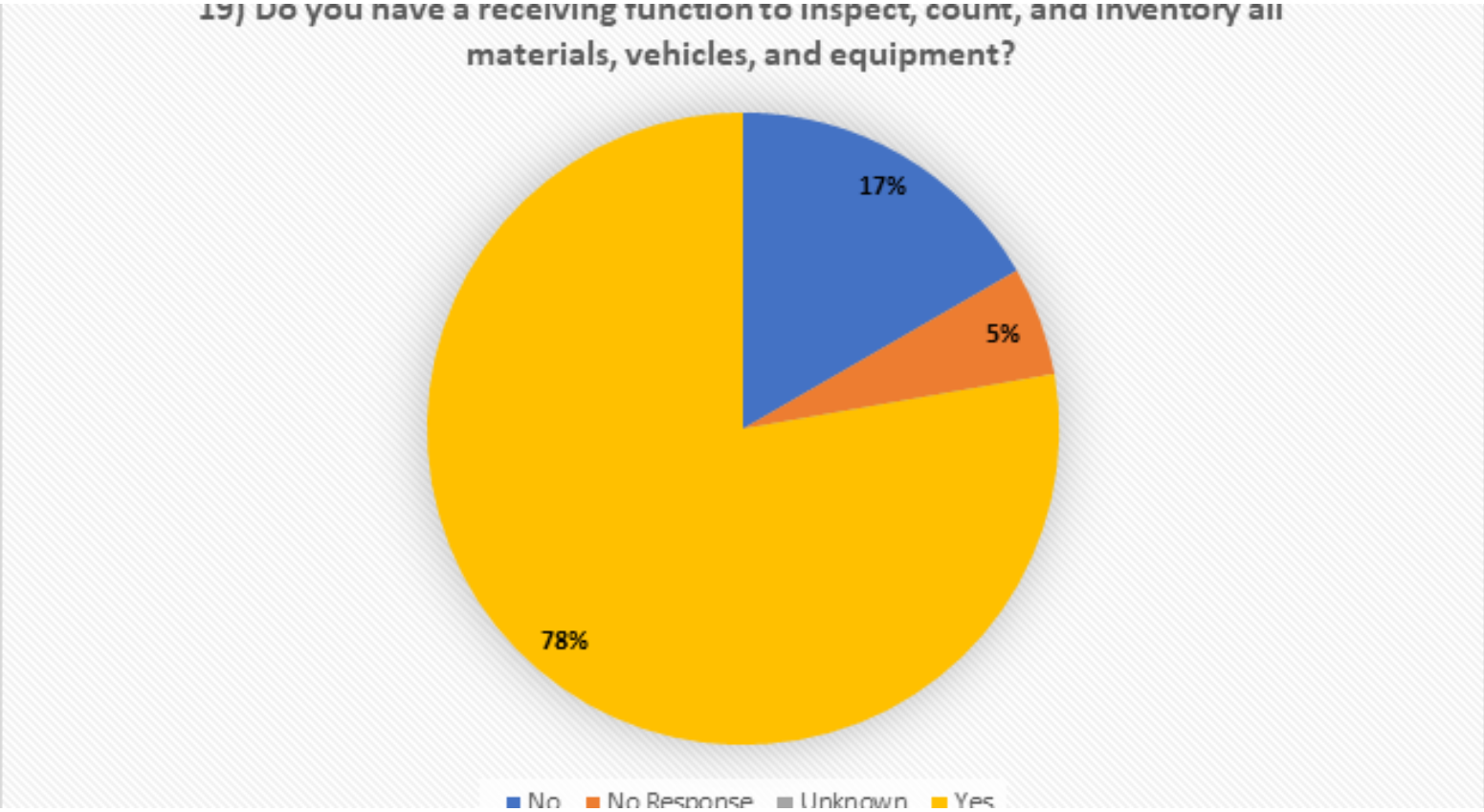

14) Are Debit Cards Prohibited?
6%
94%
No
No Response
Unknown
Yes

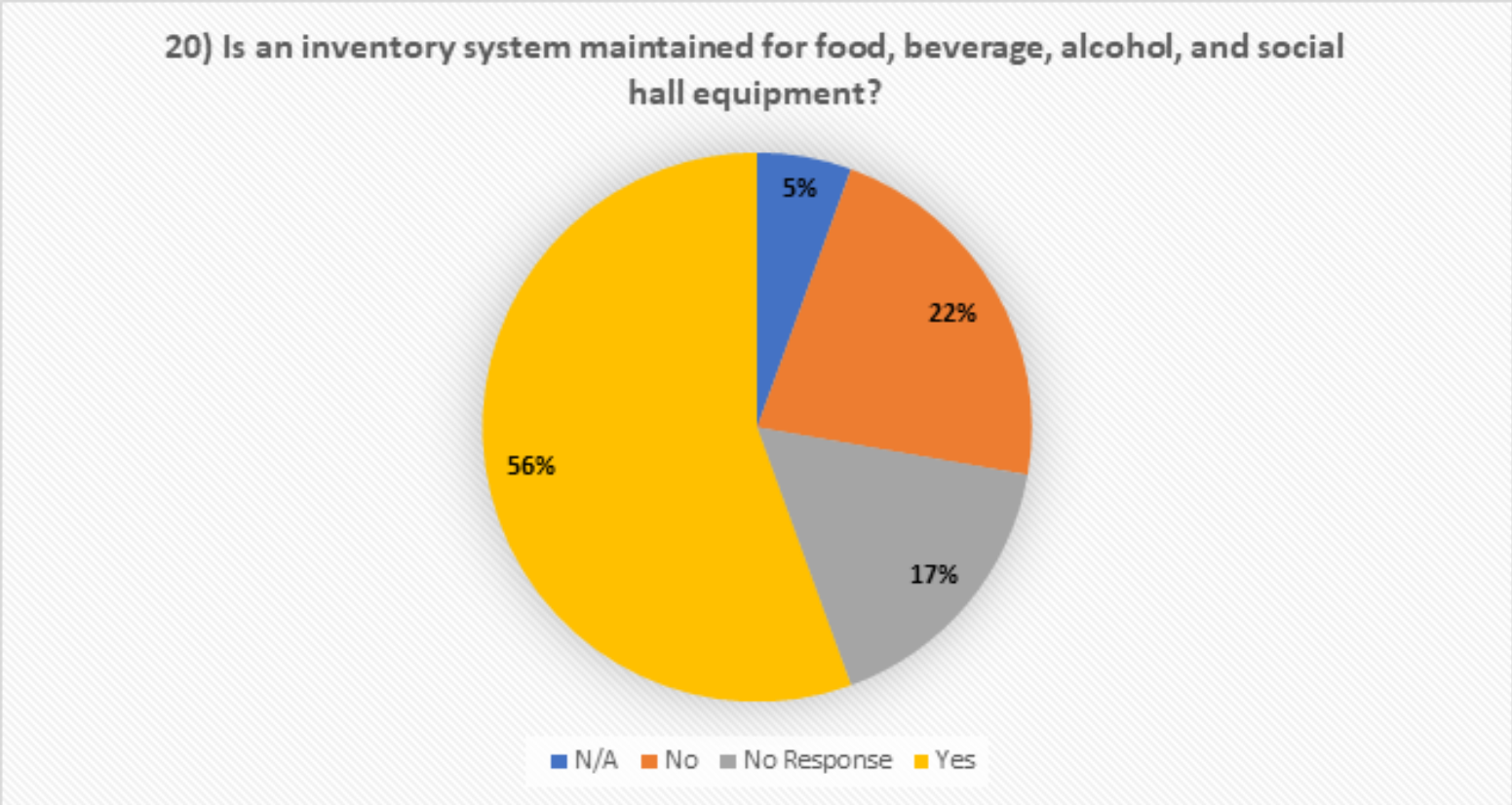

15) Are checks kept in a secure area?
6%
94%
No
No Response
Unknown
Yes

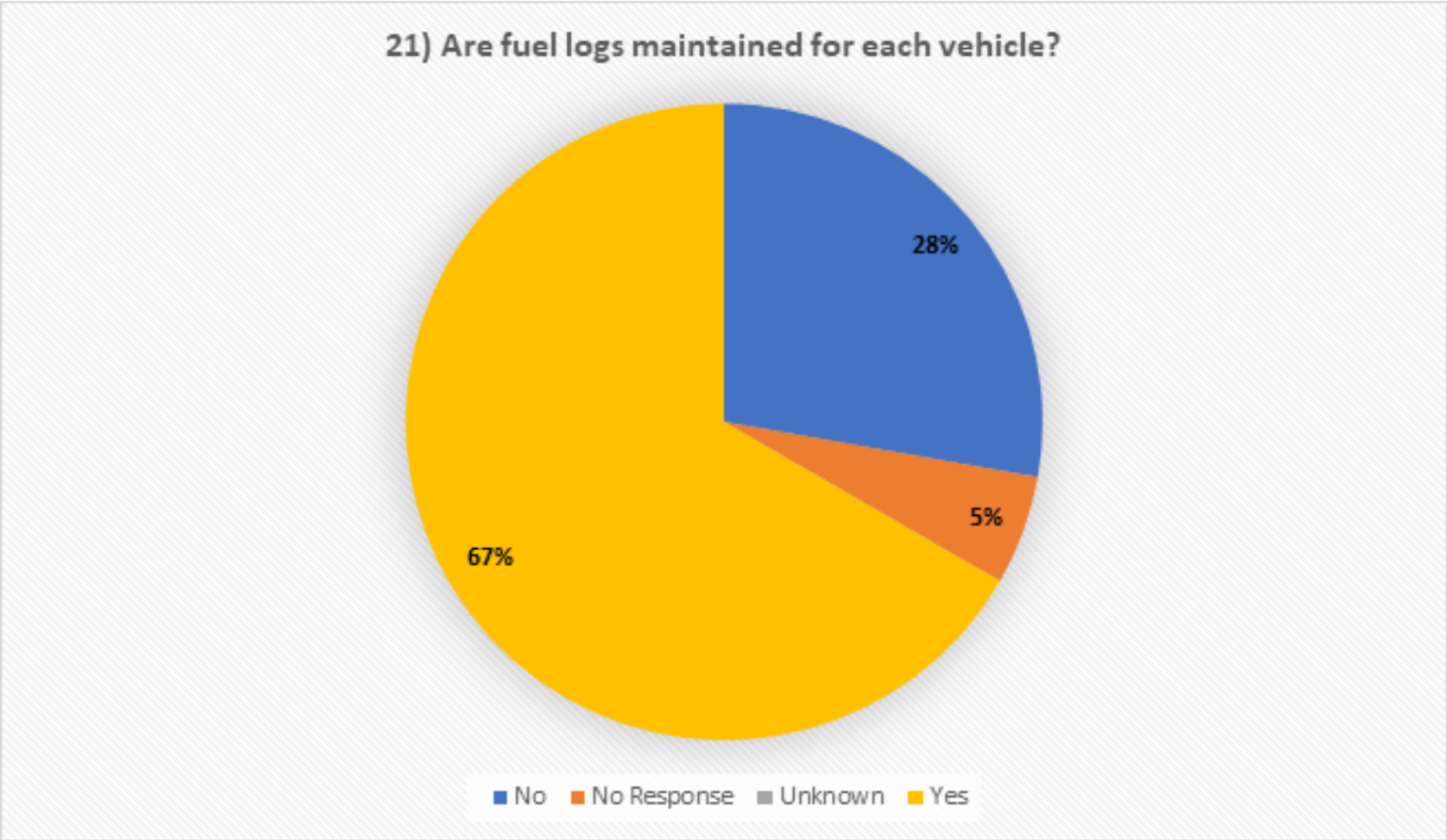

16) Are bank accounts reconciled monthly?
6%
94%
No
No Response
Unknown
Yes

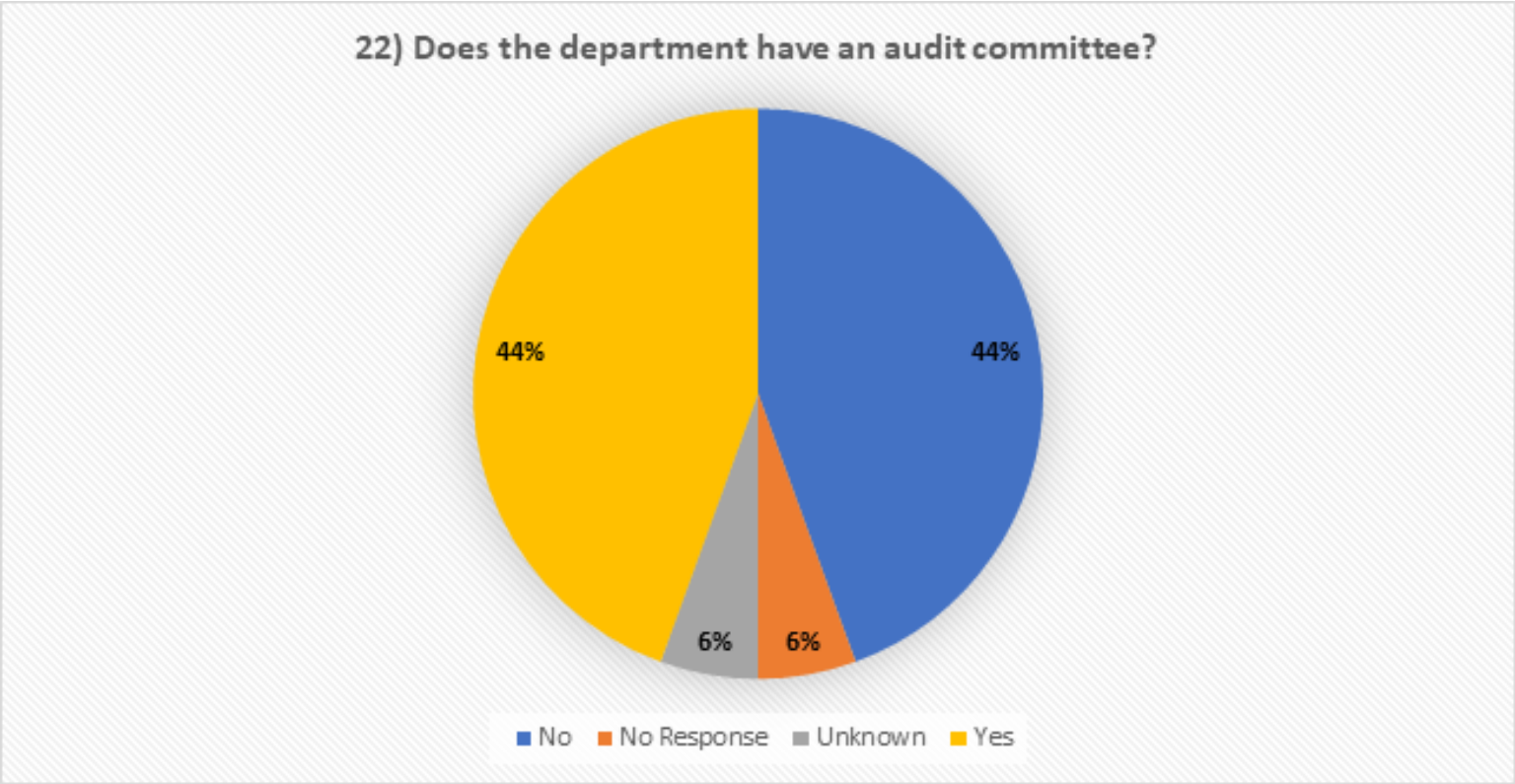

17) Are checks reconciled to vouchers?
5%
6%
6%
83%
No
No Response
Unknown
Yes

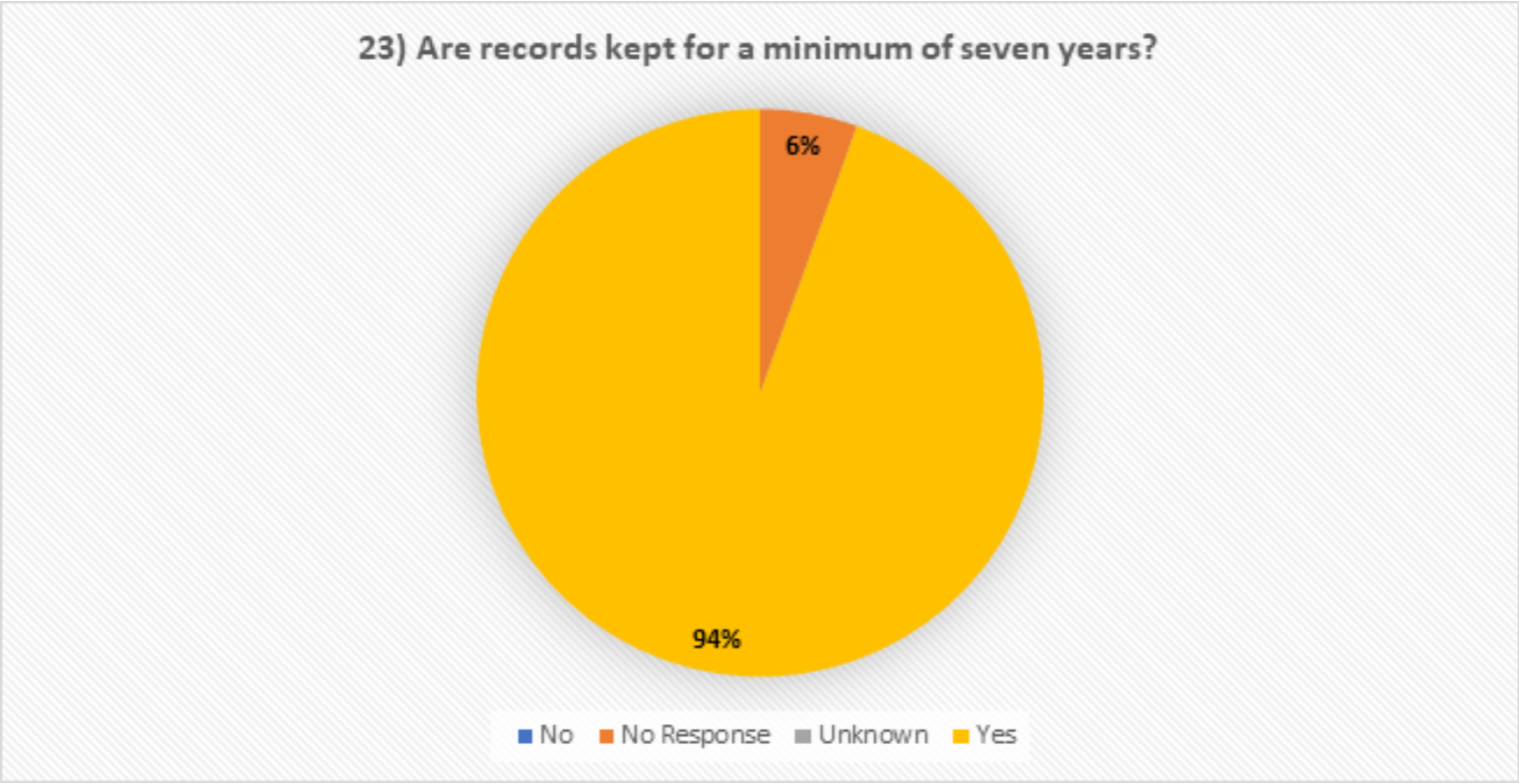

18) Are bank accounts and check signers reviewed and authorized by the board at least annually?
5%
6%
89%
No
No Response
Unkown
Yes


19) Do you have a receiving function to inspect, count, and inventory all materials, vehicles, and equipment?
17%
5%
78%
No
No Response
Unknown
Yes


20) Is an inventory system maintained for food, beverage, alcohol, and social hall equipment?
5%
22%
56%
17%
N/A
No
No Response
Yes


21) Are fuel logs maintained for each vehicle?
28%
5%
67%
No
No Response
Unknown
Yes


22) Does the department have an audit committee?
44%
44%
6%
6%
No
No Response
Unknown
Yes



DISCLAIMER: There were some adjustments made for presentation purposes

NOTES

{i)“A PROUD TRADITION: 275 YEARS OF THE AMERICAN VOLUNTEER FIRE SERVICE,” National Volunteer Fire Council.
{ii)“The History of Volunteer Firefighting”, http://firehistory.weebly.com/the-history-of-volunteer-firefighting.html
{iii)Ibid
{iv}Obtained from the Delaware Volunteer Firefighter Association (DVFA) website, https://dvfassn.com/page/history
{v}Obtained from the Delaware Volunteer Firefighter Association (DVFA), Executive Manager
{vi}Volunteer Fire Service Fact Sheet. The National Volunteer Fire Council, Greenbelt, MD. 2020
{vii} National Fire Department Registry Summary – 2018. USFA FEMA
{viii}Delaware State Fire Commission. https://statefirecommission.delaware.gov/
{ix}Delaware Volunteer Firefighter Recruitment Website. https://firefighter.delaware.gov/
{x}Ibid
{xi}Obtained Fiscal Year 2020 Grant-in-Aid Bill, excluding Wilmington
{xii}Obtained from the Office of the State Treasurer, excluding Wilmington
{xiii}Obtained from the Office of the State Treasurer and the Delaware State Fire Prevention Commission, excluding Wilmington
{xiv}Obtained from the Fiscal Year Budget 2020 for each County
{xv}Obtained from Delaware Public Employees’’ System Annual Financial Report Fiscal Year 2020, Volunteer Fire Fund Employer Contributions
{xvi}Obtained from the US Census website at www.census.gov/quickfacts
{xvii}Obtained from Fiscal Year 2019 Grant-in-Aid Bill and confirmed by Rob Winkeler, Assistant Budget Director Wilmington Mayor’s Office of Management and Budget
{xviii}Obtained from the City of Wilmington
{xix}Obtained from www.census.gov/quickfacts
{xx}Obtained from State Department of Education
{xxi}Obtained from the City of Wilmington
{xxii}Equipment costs averages were truncated to whole numbers, aerial trucks, tankers, and pumper tankers are required by approximately half of the companies for specialized needs

KATHLEEN
McGUINESS
DELAWARE
STATE AUDITOR

Working Hard To Protect YOUR Tax Dollars

The Delaware State Auditor serves Delawareans by ensuring accountability in the use of taxpayer dollars to identify fraud, waste and abuse through independent assessments, including the use of various audits, special reports and investigations of financial operations, performance management and statutory compliance of state government and to evaluate economy, efficiency and effectiveness.

For further information on this report please contact:
Kathleen K. McGuiness, RPh, CFE
kathleen.mcguiness@delaware.gov

Report Fraud, Waste, and Abuse in Delaware State Government

1-800-55-FRAUD

fraud.delaware.gov

View our released reports at auditor.delaware.gov