

**New York State Office of the State Comptroller**  
Thomas P. DiNapoli

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Division of State Government Accountability

# Oversight of Weights and Measures Programs

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## Department of Agriculture and Markets

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Report 2016-S-98

December 2017

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# Executive Summary

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## Purpose

To determine whether the Department of Agriculture and Markets (Department) adequately monitors and enforces weights and measures to ensure consumer confidence in products purchased in New York State. The audit covers the period April 1, 2014 to July 20, 2017.

## Background

The Department's Bureau of Weights and Measures (Bureau) is charged with ensuring measurement accuracy and uniformity in commerce to help ensure that consumers get what they pay for and that competition is fair. Department regulations specify that all commercial devices used to weigh and measure commodities sold on the basis of weight, volume, or size are to be inspected and tested for accuracy at least annually. Such devices include gas pumps and vehicle and grocery scales. Gasoline and diesel fuels sold for use in motor vehicles are also subject to inspection to ensure they meet quality standards and are properly labeled.

The Department and 60 municipalities (57 counties and three cities under the supervision of the Department) share responsibility for inspecting devices. Generally, the municipalities are expected to: enforce the relevant laws and regulations; inspect and test commercially used weighing and measuring devices and retail gasoline and diesel fuels; inspect and test packaged commodities; regulate commercial weighing and measuring practices; and investigate consumer and business complaints. The Department is responsible for: supervising municipal inspections; training municipal inspectors; assisting municipal officials when requested; coordinating certain investigation and enforcement activities; and developing regulations, procedures, and guidelines to help ensure uniform inspection and enforcement activities.

According to the Department's 2015 annual report data, approximately 170,000 weighing/measuring devices were used by more than 27,000 commercial establishments statewide. Gasoline and diesel fuel were distributed from about 140 terminals and sold from about 4,800 retail stations statewide.

## Key Findings

- We found systemic issues with the quality of data the Department relies on to administer the State's weights and measures program. Data inaccuracies and system deficiencies were found in two of the Bureau's most critical databases. Such deficiencies diminish the Department's ability to conduct useful analyses and to provide meaningful information to the municipalities. Such information could potentially assist municipalities to focus their limited resources on areas of highest risk to consumers and producers.
- Our site visits to seven municipalities found most of them did not complete all their mandated annual inspections. The inability to inspect all of these devices diminishes the municipalities' and Department's ability to ensure fair competition and provide producer and consumer confidence in the goods sold in the State.

## Key Recommendations

- Implement procedures to incorporate periodic data analysis to:
  - Identify municipal functions that need improvement;
  - Identify patterns, outliers, and/or areas of concern for petroleum quality testing; and
  - Provide information to municipalities to assist them in managing allocation of their staff resources as effectively as possible.
- Develop and implement procedures for input, quality assurance, and utilization of the information in each of the Bureau's systems.

## Other Related Audits/Reports of Interest

[Department of Agriculture and Markets: Food Safety Monitoring \(2013-S-27\)](#)

[Department of Agriculture and Markets: Dairy Inspections \(2014-S-16\)](#)

**State of New York  
Office of the State Comptroller**

**Division of State Government Accountability**

December 1, 2017

Mr. Richard A. Ball  
Commissioner  
Department of Agriculture and Markets  
10B Airline Drive  
Albany, NY 12235

Dear Commissioner Ball:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage government resources efficiently and effectively and, by so doing, providing accountability for tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit entitled *Oversight of Weights and Measures Programs*. The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

*Office of the State Comptroller  
Division of State Government Accountability*

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This report is also available on our website at: [www.osc.state.ny.us](http://www.osc.state.ny.us)

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## Background

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The mission of the Department of Agriculture and Markets (Department) is to foster a competitive food and agriculture industry that benefits producers and consumers alike. Within the Department, the Bureau of Weights and Measures (Bureau) oversees key control activities in support of the Agriculture and Markets Law (Law) to ensure consumers are getting what they pay for and to uphold fair competition in the marketplace, including inspection and testing of commercial weights and measures devices and packaged goods.

In accordance with Section 220.5 of the New York Codes, Rules and Regulations (Regulations), the following are subject to inspection:

- All commercial devices used to measure commodities that are sold on the basis of weight, volume, or size such as gas pumps, grocery/deli scales, livestock scales, and milk tanks, to ensure accuracy of measurement;
- Packaged goods such as foods, cleaning agents, paints, and yard/garden products, to ensure the package contains the amount of product indicated on the label; and
- Gasoline and diesel fuels sold for use in motor vehicles, to ensure they meet certain quality standards and are properly labeled for sale.

The responsibility for performing inspections is shared between the Bureau and 60 municipal weights and measures offices (57 counties and three cities). Generally, the municipalities perform inspections within their jurisdictions, and the Bureau performs inspections that require special equipment or expertise. As administrator of the State's weights and measures program, the Department is required to: supervise municipal activities, including inspections; provide training to municipalities and assist municipal officials when requested; and develop regulations, procedures, and guidelines to ensure uniformity in the conduct of the inspections and the enforcement of the law and regulations.

Municipalities have the authority and are generally expected to: enforce State laws and regulations among vendors; regulate commercial weighing and measuring practices used by vendors; and investigate consumer and business complaints. Municipalities are required to maintain documentation supporting their weights and measures program activities, and to submit an annual report detailing their results (e.g., devices inspected, pass/fail testing results). The Department collects and/or imports municipal data into three databases – annual reporting, complaints, and petroleum quality – for monitoring and tracking purposes. The Department uses the data to review each municipality's activities, identify improvement opportunities, and inform them of quality failures for follow-up.

Based on annual report data submitted by the municipalities and compiled by the Department, for 2015, approximately 170,000 weighing/measuring devices were used by more than 27,000 commercial establishments statewide. Gasoline and diesel fuel were distributed from about 140 terminals and sold from about 4,800 retail stations statewide.

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## Audit Findings and Recommendations

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We found systemic issues with the quality of data the Department relies on to administer the State's weights and measures program. Weak controls over its databases and error-prone reporting by municipalities have resulted in data inaccuracies, and have hindered the Department's ability to both monitor municipalities' inspection activities and ensure a fair and equitable marketplace.

Furthermore, not all municipalities complete their mandated annual inspections, as required by the Regulations. Robust data and systems are key tools for constructive analysis that enable the Department to more accurately identify performance strengths and weaknesses, and steer municipalities' allocation of scarce resources to areas of greatest need or at highest risk. In light of municipalities' limited resources, data analyses are even more critical.

Our findings are consistent with feedback from municipal officials during our site visits, who stated they need training focused on reporting, workload prioritization, and record keeping to help them perform their duties more effectively.

### Systems and Data Reliability

We reviewed the three critical databases – annual reporting, complaints, and petroleum quality – and found they each contained data that was inaccurate and/or incomplete. While some errors originated from municipalities' reporting, we traced other errors to flaws in database system design and data entry. We found the Bureau does not have written procedures for standards of quality control or data utilization for the three databases or a process for verifying data entry. The Bureau also does not maintain any documentation of changes that are made to the structure or design of the database or to data within it. Consequently, there is no assurance that the data in the systems is accurate or entered consistently, and therefore it is unreliable for purposes of analysis and informed decision making.

Department officials acknowledged that better guidance and controls over their systems are necessary, but developing other key functions was a higher priority due to staffing shortages. The Department has since drafted quality manuals addressing some of the databases' control weaknesses.

#### *Annual Reporting*

The annual reporting database does not have data from the New York City municipal office, which represents the five boroughs, as it has not submitted an annual report for the last three reporting years. Also, all seven municipalities that we visited reported incorrect data to the Department. Our tests showed the data the municipalities reported to the Department (such as the number of inspections completed) did not match the numbers in the municipalities' supporting documentation.



In most cases, municipal officials were aware of inaccurate data in their annual reports. Several officials could not explain the cause of the inaccuracies, but most indicated they were likely a result of human error or missing records. Bureau management was surprised to learn the information was not accurate, but admitted that they do not verify the data.

We reviewed each municipality's process for recording, maintaining, and completing inspection documentation, and found most were not fully automated. In creating their annual reports, most of the municipalities manually count their inspection records and then transfer the numbers to the annual report – a process that is inefficient, time-consuming, and prone to human error.

Municipal officials stated that, while they have had sufficient technical and on-the-job training on how to conduct inspections, they have little training on record maintenance or reporting requirements. Bureau officials concurred that little emphasis has been placed on these areas.

### *Complaints*

The complaints database, which records complaints made to the Bureau, has design, data entry, and access flaws that affect the quality of the data available for analysis. Programming errors and weak system controls resulted in a number of deficiencies:

- Some data incorrectly populates the wrong fields. For example, the facility name populates the complainant name field.
- Unrelated data can be entered. For example, follow-up petroleum test failure data in the petroleum quality database is comingled with complaint data.
- There are no specifications or limits for required information. As a result, users with write access are able to enter any amount of any information into the databases without a subsequent review to ensure consistency.

If controls were implemented to standardize data input and produce reliable data, the Bureau would, at a minimum, be able to document and track certain aspects of the complaint process, including time frame for resolution of complaints, as well as create best practices for handling/resolving complaints (e.g., by identifying types and causes of delays in complaint resolution and regional trends) and identify common areas of concern (e.g., complaint trends in petroleum quality or commodities).

### *Petroleum Quality*

The petroleum quality database maintains the results for all petroleum samples tested in the State. We found the information regarding pass/fail testing contained in the petroleum quality database to be generally reliable. However, this system also had design flaws that created redundancies and inefficiencies, which could impair the Bureau's ability to use the data most effectively. For example, the Bureau does not follow a standard naming convention or have a standard for establishing names in the database, resulting in multiple spellings of the same facility in the database. Also, two attributes are used to identify the jurisdiction where the samples originated, which creates unnecessary information in the database. Officials stated that there may be specific instances where different attributes are needed – although it would be rare.



## Oversight of Weights and Measures Programs

### *Inspections*

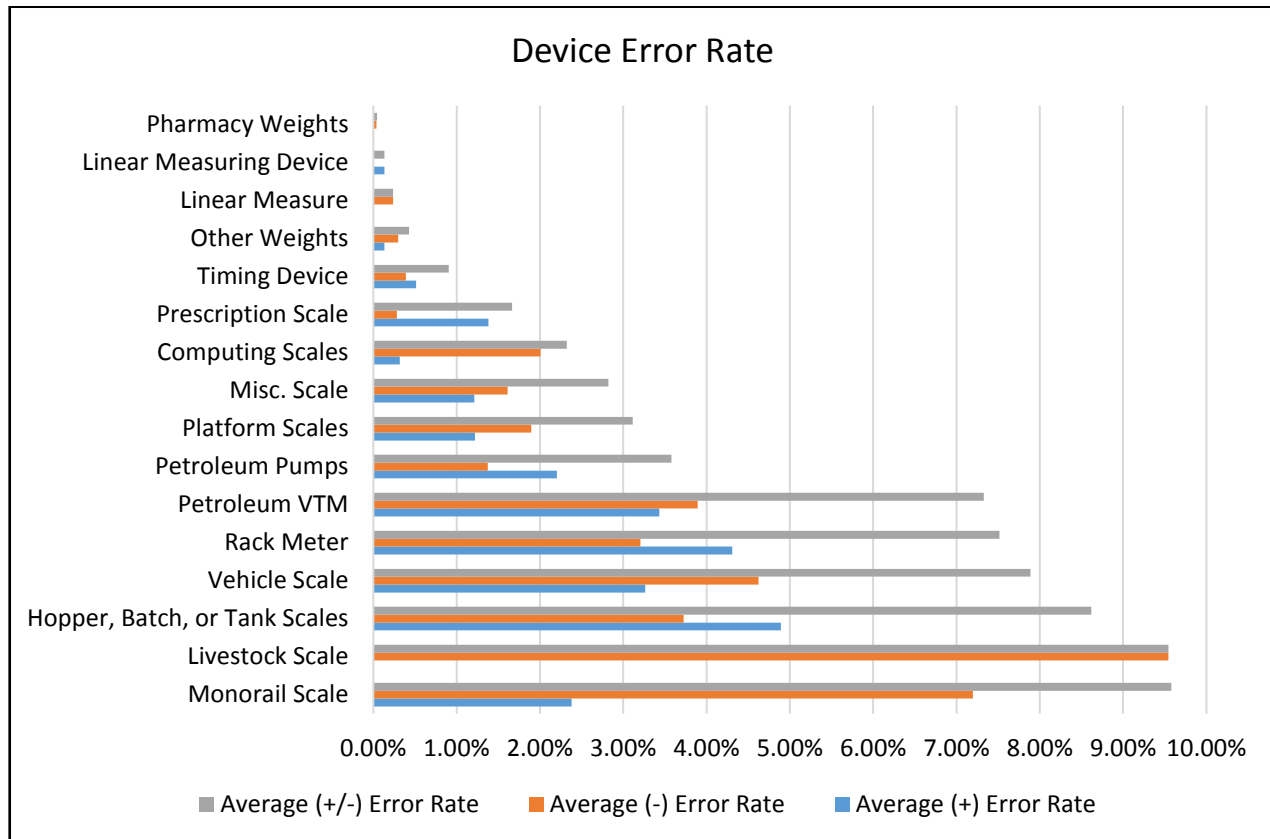
Of the seven municipalities we visited, six did not complete all their mandated annual inspections in 2014 and five did not complete them in 2015, as required by the Regulations. Failure to follow the inspection schedule diminishes the municipalities' and Department's ability to ensure consumer and producer confidence in the goods sold in the State.

Municipalities largely attributed their inspection shortfalls to a lack of resources, such as staffing and technology. With improved data analytics, the Department may be able to identify specific patterns and trends – for example, the failure rates by type of devices and devices most frequently overlooked by inspectors. The results of such analyses could help municipalities allocate their limited resources to the areas they deem to be the highest risk to consumers and producers. Although Bureau officials stated they do review the data and present it annually to the municipalities, we found the analyses are quite broad and could be much more useful to each municipality if they were sufficiently targeted and detailed.

Despite the limitations of the data, we conducted a simple analysis of the municipal data to identify specific patterns in device failure rates, frequency of inspections by device/establishment, and low-performing municipalities. We found the following:

- Petroleum pumps were the most frequently inspected devices; gas stations/stores and food stores/delicatessens were the most frequently inspected establishments.
- Some municipalities had markedly higher rates of incomplete inspections than others. For example, two municipalities inspected less than 50 percent of devices in their jurisdictions in both 2014 and 2015, and another eight inspected less than 80 percent in 2015.
- The average error rate for all devices was 4 percent. However, certain types had much higher or lower error rates than others. For example, livestock scales had an average error rate over 9 percent, while pharmacy scales had an error rate close to zero.

The following chart shows the varying error rates by device type for the 2015 calendar year.



Our results identified municipalities struggling to complete their required inspections as well as risks of specific devices based on failure rates. However, data trended over a longer time period or analyzed in greater depth may reveal even more meaningful information, such as devices that could be inspected less frequently without significant risk, additional patterns of problems, or red flags. More detailed information would enhance the Bureau's ability to collaborate with municipalities to mitigate problems or barriers that impede or limit inspection activities. According to Bureau officials, to gain more information on specific problems at the municipal level, they began sending letters to municipalities that did not meet requirements, requesting an explanation for the deficiency and corrective action during the 2017 reporting year.

During our site visits, municipal directors and staff indicated they would benefit from more guidance on standardization of workload prioritization.

### *Petroleum Quality*

While the Department's petroleum quality database records petroleum samples taken by both the Department and municipalities, it does not maintain follow-up information related to failed samples (i.e., those that do not meet quality standards). We were thus unable to determine whether petroleum failures were adequately addressed. According to Department officials, if follow-ups for failed petroleum samples are initiated by Bureau staff, an entry is logged into the complaints database. However, we found that this was not always done.

We also found that neither the Bureau nor the municipalities had written guidance or procedures clarifying if, when, or how they should follow up on petroleum failures. Thus, any follow-up activity was not standardized among the municipalities we visited. Officials at the municipalities stated that, in the event of sample failure, they retest the sample at the station where it originated. However, poor record keeping and the lack of established procedures for failure follow-up, across all the municipalities who participated in the petroleum quality program, prevented us from verifying the decisions and actions related to retesting or resampling and whether the methodology was reliable.

As with the annual reporting data, comprehensive analytics on the petroleum quality data would enable the Department to better assist municipalities in identifying problematic retail locations or distributors warranting the attention of the municipal inspectors. According to Bureau officials, in 2017, they began looking at trends regarding the petroleum quality testing results and sharing analyses with municipalities. Additionally, although the Bureau generates and reviews a weekly report on failures, it did not analyze the data prior to 2017. Instead, the failure reports were forwarded to the respective municipalities for their analysis. We reviewed the petroleum sampling data and found that, on average, the failure rate was only 2 percent. Given this generally high pass rate, it may be a more effective use of Bureau and municipality resources to perform analytics on the samples to identify those few distributors, jurisdictions, and/or establishments with a pattern of failing samples for targeted attention.

We analyzed the data and identified certain patterns and anomalies. For example:

- Samples of 89 octane and 93 octane failed more often than samples of other octane levels.
- Despite indications of consistent or high failure rates, retesting or resampling was not always done. For example, all 89 and 93 octane samples at four establishments in New York City tested in July 2015 failed, but the facilities were not resampled or retested that year. Also, in that same month, a New York City supplier failed its 93 octane test, suggesting a possible correlation. Unfortunately, the four establishments were missing supplier information; therefore, we were not able to confirm a connection.
- Approximately 17 percent of 32,000 octane samples taken during our audit scope period included database comments relating to missing or incomplete supplier information. Supplier information would be very useful for analyzing correlations between failed establishments and failed suppliers.
- In October 2014, three establishments had eight samples of 89 and 93 octane tested. Four of the eight (50 percent) samples failed, were retested, and again failed. For two of the failed samples, the database comments stated, "Supplier info not in database as written." Again, the lack of supplier information prevented further analysis to determine if a correlation among failures existed. Despite the repeated failed samples, these three establishments were not sampled again during our scope period, and all are still active.

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## Recommendations

1. Implement procedures to incorporate periodic data analysis to:
  - Identify municipal functions that need improvement;
  - Identify patterns, outliers, and/or areas of concern for petroleum quality testing; and
  - Provide information to municipalities to assist them in managing allocation of their staff resources as effectively as possible.
2. Provide additional training on administrative tasks, reporting, and workload prioritization to municipal inspectors and/or directors.
3. Develop and implement procedures for input, quality assurance, and utilization of the information in each of the Bureau's systems.
4. In conjunction with Office of Information Technology Services, develop controls within each system to prevent duplicative, erroneous, or incomplete information from being entered.

## Audit Scope, Objective, and Methodology

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This objective of our audit was to determine whether the Department adequately monitors and enforces weights and measures to ensure consumer confidence in products purchased in New York State. The audit covers the period April 1, 2014 to July 20, 2017.

To achieve our audit objective, and determine whether the Department's monitoring and oversight of the State's weights and measures program was adequate, we reviewed relevant laws and regulations as well as the Bureau's manuals and procedures. We interviewed Bureau staff and management as well as municipal directors. We became familiar with, and assessed the adequacy of, the Department's internal controls as they related to its performance and our audit objective.

We performed data reliability testing on three of the Bureau's critical data systems that contained data pertinent to our audit objective. We found instances where information contained within them could not be relied upon as it was either inaccurate, incomplete, or both. Therefore, we deemed the data to be unreliable. We limited our reliance on the data to support our audit findings, using hard copy records wherever possible, and qualified the reliability of the data in the report when it was used. We also performed site visits to seven municipalities.

We selected municipalities for site visits based on risk. Of the 60 total municipalities, we identified 18 that were a higher risk based on the number of deficiencies found in the data the municipalities reported and/or did not report to the Bureau. To ensure a geographically diverse group, we used mapping software to select 5 of the 18 municipalities. We also selected 2 of the 60 municipalities that were identified to be lower risk based on the data. These municipalities were meeting their inspection requirements for the 2014 and 2015 years, had a comparable number of devices as

the other five municipalities we sampled, and operated with only a director to perform weights and measures responsibilities. For these seven municipalities, we compared data submitted to the Bureau for years 2014 and 2015 with the data that the municipalities maintain (hard copy/electronic) to ensure that all devices are being inspected (or if not, to determine why), all directors/inspectors are being trained, all complaints are being resolved and in a timely manner, and all petroleum quality samples are examined timely.

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

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating threats to organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

## Authority

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The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

## Reporting Requirements

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A draft copy of this report was provided to Department officials for their review and comment. We considered their comments in preparing this final report, and they are attached in their entirety at the end. The Department agreed with our recommendations and indicated it is taking steps to implement them.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Commissioner of the Department of Agriculture and Markets shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

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## Contributors to This Report

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### Vision

A team of accountability experts respected for providing information that decision makers value.

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To improve government operations by conducting independent audits, reviews and evaluations of New York State and New York City taxpayer financed programs.

# Agency Comments



## Agriculture and Markets

ANDREW M. CUOMO  
Governor

RICHARD A. BALL  
Commissioner

October 3, 2017

Mr. Steve Goss  
Audit Director  
Office of the State Comptroller  
110 State Street  
Albany, New York 12236

### New York State Department of Agriculture and Markets

#### Response to Report 2016-S-098 – Oversight of Weights and Measures Programs

Dear Mr. Goss,

The New York State Department of Agriculture and Markets (the “Department”) has reviewed the Office of the New York State Comptroller’s (“OSC”) findings titled, “Oversight of Weights and Measures Programs” dated August 2017 and, by this letter, responds to OSC’s findings and recommendations.

The Department’s Bureau of Weights & Measures is responsible for assuring the measuring accuracy of devices used to weigh commodities sold on the basis of weight, volume or measure. Local municipalities are then responsible for enforcing weights and measures related laws and regulations at a local level. Specifically, these municipalities perform inspections and tests on weighing and measuring devices and investigate consumer complaints, and are supervised by their County Executives, not the Department. The Department assists municipal officials with weights and measures issues only when requested and trains municipal inspectors to perform this work.

While the Department is willing to provide assistance to weights and measures professionals, the Department has no authority to direct local workers to focus on a particular area or issue. Moreover, municipalities are most familiar with their own geography and economy and are, therefore, better positioned to allocate their limited resources to meet state-wide compliance obligations. Accordingly, the Department generally does not prioritize workloads on behalf of municipal departments of weights and measures.

Notably, the Department can, and does, suggest workload priorities from a supervisory nature, and agrees that data analysis may help identify trends and weaknesses and may provide a basis for work prioritization. However, data analytics alone does not guarantee that mandated tests are completed by a municipality, and the findings contained in this report provide little evidence to support that prioritizing risk would help municipalities achieve their mandated testing.



### The Department's Response to OSC Recommendations

The Department's responses to the State Comptroller's recommendations can be found below:

**1. "Implement procedures to incorporate periodic data analysis to:**

- **Identify municipal functions that need improvement;**
- **Identify patterns, outliers, and/or areas of concern for petroleum quality testing; and**
- **Provide information to municipalities to assist them in managing allocation of their staff resources as effectively as possible."**

The Department utilizes data analysis to make informed decisions to assist the municipalities. The Department will further explore the use and sharing of data analysis to enhance Bureau functions and aid municipalities. As part of its ongoing process improvement efforts, the Department will continue to review its policies as it deems necessary.

**2. "Provide additional training on administrative tasks, reporting, and workload prioritization to municipal inspectors and/or directors."**

The Bureau already works with municipalities to provide training on administrative tasks, reporting and workload prioritization. However, daily workload prioritization remains the responsibility of the municipal director. As part of its ongoing process improvement efforts, the Department will continue to review its policies as it deems necessary.

**3. "Develop and implement procedures for input, quality assurance, and utilization of the information in each of the Bureau's systems."**

The Bureau has developed procedures and will continue to evaluate and implement practices to aid in input, quality assurance and utilization of database information.

**4. "In conjunction with Office of Information Technology Services, develop controls within each system to prevent duplicative, erroneous, or incomplete information from being entered."**

The Department continues to develop and refine its controls to help prevent duplicates, errors and incomplete information from being entered into the respective databases. The Bureau will seek input from the Office of Information Technology Services for additional feedback on controls and implement as deemed appropriate.

Very truly yours,



Jen McCormick  
First Deputy Commissioner