



**ANNUAL REPORT ON THE TESTING AND  
INSPECTION ACTIVITIES OF THE  
DEPARTMENT OF AGRICULTURE AND  
CONSUMER SERVICES  
WEIGHTS AND MEASURES PROGRAM**

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**Annual Report on the Testing and Inspection Activities of the  
Department of Agriculture and Consumer Services Weights and Measures Program**

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Annual Report on the Testing and Inspection Activities of the Department of Agriculture and Consumer Services Weights and Measures Program

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§ 3.1-928(B) of the Code of Virginia

**EXECUTIVE SUMMARY**

This document is submitted pursuant to § 3.1-928(B) of the Code of Virginia (Code), which requires the Commissioner of Agriculture and Consumer Services to report annually to the Chairmen of the Senate Committee on Finance and the Senate Committee on Agriculture, Conservation and Natural Resources, and the Chairmen of the House Appropriations Committee and House Committee on Agriculture, Chesapeake and Natural Resources, the results of testing and inspection activities carried out by staff in the weights and measures program of the Department of Agriculture and Consumer Services. During the fiscal year ending June 30, 2007, staff:

- Inspected 55,147, or 49%, of the 112,474 weights and measures devices known to the agency that are used in commercial transactions in Virginia
- Posted an overall frequency of inspection per device of 24 months
- Investigated 714 consumer complaints

The report also includes several informational charts.

**LEGISLATIVE MANDATE**

This document complies with the provisions of § 3.1-928(B) of the Code of Virginia, which requires the Commissioner of Agriculture and Consumer Services to report annually to the Chairmen of the Senate Committee on Finance and the Senate Committee on Agriculture, Conservation and Natural Resources, and the Chairmen of the House Appropriations Committee and House Committee on Agriculture, Chesapeake and Natural Resources, the results of testing and inspection activities carried out by staff in the weights and measures program of the Virginia Department of Agriculture and Consumer Services (VDACS), including the number and frequency of inspections for the weighing and measuring devices.

**I. FUNDING OVERVIEW**

VDACS’ weights and measures program has been traditionally funded by general fund (GF) appropriations. The 2003 Appropriations Act eliminated all general fund appropriations and required the Commissioner of VDACS to collect a registration fee of \$9.00 for each weight and measure device that was subject to inspection. The 2004 General Assembly, responding to concerns raised by industry, reduced the registration fee from \$9.00 to \$4.00 per device and instructed the Commissioner to develop a long-term plan for the weights and measures program in conjunction with industry representatives. The 2005 Session of the General Assembly eliminated the \$4.00 fee and approved a number of changes to Title 3.1, Chapters 35 and 35.1 of the Code of Virginia. The approved changes granted the Commissioner discretion to determine the frequency interval for inspections of commercial weighing and measuring devices, allowed for the random reinspection of rejected devices and random initial verification of newly installed devices, and allowed for the acceptance of inspections of weighing and measuring devices by private companies as official inspections. In addition, in 2005 the General Assembly restored \$500,000 in GF appropriations, which allowed the program to restore staffing to pre-2003 levels. For fiscal year (FY) 2007, the GF appropriation was \$1,943,468.

**II. WEIGHING AND MEASURING DEVICES IN VIRGINIA**

VDACS’ weights and measures database lists 112,474 commercial weighing and measuring devices, an increase of 3,887 devices, or 3.6%, over the previous year. The FY07 number does not include 1,377 taxi meters reported last year, since inspection of those devices is now performed by the appropriate localities.

Of particular operational significance is the 6.6% increment in the number of motor fuel dispensers, which increased by 5,158 devices, from 76,761 the previous year to 81,919 in FY07.

The following table details the number of devices by type. See the Appendix for the definition of each device type.

Device Type	Number
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Petroleum Product Dispensers	80,678
Computing/Hanging/Counter/Platform Scales	23,624
Vehicle Tank Meters	1,982
Liquefied Petroleum Gas (LPG) Meters	1,454
Vehicle Scales	1,522
Truck Stop Dispensers	1,241
Bulk Plant Meters	615
Warehouse Scales	449
Hopper Scales	268
Farm Scales	256
Vehicle On-Board Weighing System	188
Moisture Machines	52
Livestock Scales	63
Railroad Scales	49
Analytical Balance	24
Belt Conveyor Scales	7
Monorail Scales	2
Total Number of Devices	112,474

### III. STAFFING RESOURCES

As of June 30, 2007, the weights and measures program had 32 full-time employee (FTE) positions filled. One FTE position is involved in the regulation and sampling of motor fuel quality and three are involved with program administration, training and compliance activities. The remaining 28 FTE positions perform weights and measures inspections and are allocated as follows:

Two positions perform metrology calibrations for government and industry clients. These are laboratory positions that perform calibrations of mass standards as small as a micro-pound (.000001 lb.) to over 2,500 pounds, and volumetric calibrations from one milliliter to over 2,000 gallons. The laboratory performs calibrations of time and frequency, temperature, and length. The laboratory is recognized by the National Institute of Standards and Technology and it is accredited under its National Voluntary Laboratory Accreditation Program. This level of accreditation gives laboratory clients direct traceability to national standards of measurement.

Twenty positions are involved in the testing of small capacity devices, such as retail motor fuel devices, retail computing scales, medium capacity bench, counter, and floor scales. They also determine the accuracy of point-of-sales systems, verify the accuracy of packaged commodities, enforce advertising and method of sale requirements, audit sales activities, and investigate consumer complaints.

Six positions are engaged in the testing and inspection of all large capacity weighing and measuring devices, which include fuel oil and liquid petroleum gas (LPG) meters, both

vehicle mounted and bulk; as well as large capacity scales which include vehicle, belt conveyor, and railroad scales.

All field inspectors are responsible for the enforcement of the Commission Merchant, Cotton Handlers, Weights and Measures Service Agency and Technician, Burley Tobacco, and Public Weighmaster Laws. The program also utilizes part-time employees to inspect livestock scales annually at approximately 250 privately owned farms.

Training is an important consideration that impacts staff availability. New inspectors typically undergo six months of initial classroom and field training, but it may take up to three years for them to become fully proficient in the many technical complexities of the program. Seasoned inspectors also undergo in-service training. During FY07, staff received over 4,982 hours of instruction on legal and technological topics.

The program experienced a number of personnel issues, including several resignations, one key retirement and one extended medical leave absence, all of which impacted staff availability and the number of inspectional activities provided. The Program Manager position was vacant during the latter part of 2006 due to resignation, and a new Program Manager did not start until February 2007. The Weights and Measures Program Supervisor retired and his replacement was hired in February 2007; because of the complexity of this position, the new incumbent received extensive technical training during the first six months of his tenure. Two District Inspectors and one Large Capacity Scale Inspector resigned during the year. One Large Capacity Scale Inspector was on medical leave for four months due to a work-related injury. The recruitment efforts were particularly challenging for large capacity scale inspectors, who are required to have a commercial driver's license (CDL) in order to operate the trucks assigned to them. During the year, the job market demand for CDL holders far exceeded their availability, which compounded our recruitment difficulties. Nonetheless, one new District Inspector and three Large Capacity Device Inspectors were hired in May, and another Large Capacity Device Inspector was hired in June 2007. As with other professions that require significant technical and regulatory compliance training, the new hires are not immediately available to conduct inspectional work on their own. Because of these issues, the aggregate time available to conduct inspections was reduced by an estimated 2¼ staff years.

#### **IV. INSPECTION ACTIVITIES BY DEVICE GROUP**

During FY07, staff investigated 720 consumer complaints that required 2,653 man hours. VDACS places high priority on the response and investigation of consumer complaints, while recognizing that time spent on investigative activities reduces overall staff availability to conduct device inspections.

The largest area of inspection activity involves the testing of measuring devices that are used to dispense motor fuels, including gasoline, diesel fuel, fuel oils, liquefied petroleum gas products (LPG), and kerosene. During FY07, inspections were completed on 42,902 of these devices, or approximately 10% fewer inspections than in the previous year. This reduction was attributed primarily to the higher number of reinspections (4,343 in FY07 vs. 3,457 in

the previous year).

### Measuring Device Inspections

Device Type	Population	Number Inspected	Pct. Rejected	Number of Reinspections
Petroleum Dispensers	80,678	42,177	16%	4,249
Vehicle Tank Meters	1,982	159	21%	3
LPG Meters	1,454	271	39%	19
Truck Stop Meters	1,241	294	26%	75
Bulk Plant Meters	615	1	100%	1
Total	85,970	42,902		4,347

The second largest area of inspection involved 27,126 weighing devices, which are used to weigh retail purchases, road and other construction materials, agricultural products, and household goods. During FY07, staff inspected 12,245 weighing devices, or 45 percent of the total population, a 22% reduction from the previous year in the number of inspections of this type of device. As with measuring devices, there was also an increase in the number of reinspections of weighing devices, from 400 in FY06 to 559 in FY07.

### Weighing Device Inspections

Device Type	Population	Number Inspected	Percent Rejected	Number of Reinspections
Retail Scales	23,862	11,362	5%	537
Vehicle Scales	1,982	560	18%	4
Warehouse Scales	449	104	10%	1
Farm Scales	256	69	13%	9
Hopper Scales	268	93	8%	8
On-Board Weighing	188	11	11%	0
Livestock Scales	63	30	7%	0
Other Scales	58	16	14%	0
Total	27,126	12,245		559

## V. OTHER FIELD INSPECTION ACTIVITIES

During FY07, surveillance activities related to motor fuel quality, accuracy of packaged commodities, sales of agricultural products, and point-of-sales systems resulted in 47,946 samples being verified, which involved over 5,929 staff hours.

Inspection Activity	Samples Verified
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Retail Store Prepared Packaged Commodities	31,658
Point-of-Sales Pricing Verified (Scanners)	12,780
Motor Fuel Quality Samples	3,328
Factory Prepared Packaged Commodities	180
Total	47,946

## VI. METROLOGY ACTIVITIES

The work unit operates a Metrology Laboratory which during FY07 performed 12,152 calibration tests for industry and government, as follows:

Standard Type	Industry Client	Government Client	Total Tests
Tolerance Test Less than 10 lbs	4,334	1,465	5,799
Tolerance Test 10 to 50 lbs	2,262	38	2,300
Tolerance Test 51 to 1,000 lbs	604	24	628
Value Determination 3 kg and less	128	75	203
Volumetric Provers Less than 10 gallons	164	116	280
Thermometers	9	19	28
Tolerance Test over 1,000 lbs.	34	4	38
Volumetric Provers Greater than 10 gallons	14	9	23
Length Standards	1	1	2
Radar Tuning Forks	0	2,785	2,785
Value Determination Greater than 3 kg	57	9	66
Total	7,607	4,545	12,152

## VII. COMPLAINT INVESTIGATION ACTIVITIES

Each year, the work unit receives an average of 600 consumer complaints that require field investigation. During FY07, staff spent over 2,653 work hours in the investigation of 714 consumer complaints, 18% of which were found to be valid. The number of complaints investigated in FY07 was significantly lower than in FY06, when staff handled more than 1,100 complaints, most of which were caused by the disruption in the flow of motor fuels associated with Hurricanes Katrina and Rita.

### Consumer Complaint Investigations

Type of Complaint	Number Received	Number of Allegations Found Valid	Percent of Complaints Found Valid
Petroleum Quantity	332	31	9%
Petroleum Pricing	61	12	20%
Petroleum Other	160	30	19%
Petroleum Quality	75	16	21%
Petroleum Advertising	37	15	41%
Other Measuring	5	3	60%



<b>Type of Complaint</b>	<b>Number Received</b>	<b>Number of Allegations Found Valid</b>	<b>Percent of Complaints Found Valid</b>
Other Weighing	10	2	20%
Retail Weighing	13	5	38%
Point-of-Sales (Scanners)	6	5	83%
Firewood Measurement	5	4	80%
Other	10	3	30%
Total	714	126	18%

## **VIII. ENFORCEMENT AND COMPLIANCE ACTIVITIES**

The program seeks to administer its assigned legislative and regulatory mandates in the least intrusive manner possible. Our philosophy is to inform, educate, and as a final step, take enforcement action. Typically, when a device is found to be incorrect, the device is rejected, which involves the placement of a seal upon the device that notifies the device owner and the consumer that the device is in need of corrective repairs. The device owner is generally allowed up to ten days to either initiate the necessary repairs or remove the device from commercial use. In extreme situations involving egregious errors, the device is condemned and immediately removed from commercial use. Situations involving repeat violations or actions of a criminal nature are subject to civil penalty assessments or prosecution under the Virginia Weights and Measures Law as Class 1 misdemeanors. During FY07, civil penalties totaling \$33,100 were assessed.

## **IX. OPERATIONAL IMPACT OF 2005 AMENDMENTS TO TITLE 3.1**

The 2005 Session of the General Assembly adopted changes to Chapter 35 and 35.1 of Title 3.1 of the Code of Virginia which eliminated the 12-month inspection interval for commercial weighing and measuring devices by VDACS, granted the Commissioner discretion to determine the frequency of such inspections, provided for the random re-inspection of newly installed as well as rejected devices, and allowed the Commissioner to accept inspection reports of weighing and measuring devices submitted by private companies in lieu of a state inspection and approval for such devices.

The implementation of revised inspection strategies in response to the legislative changes resulted in 55,147 inspections of the 112,474 weighing and measuring devices known to the agency that are used in commercial transactions in Virginia. The overall frequency of inspection per device was approximately 24 months. The number of reinspections increased by 11% from 3,857 during FY06 to 4,343 during FY07.

The program has adapted to the changes in the law in a manner that seeks to continue to assure both consumers and businesses that the most critical weighing and measuring devices that are widely used in the Commonwealth comport to the required specifications.

## Glossary

**Analytical Balance** – A device used for precision measurements with a value of the verification scale division equal to or greater than 5 grams, and having at least 100 scale divisions, however no more than 1,200 scale divisions.

**Belt Conveyor Scales** – A device that employs a weighing element in contact with a belt to sense the weight of the material being conveyed and the speed (travel) of the material, and integrates these values to produce the total delivered weight.

**Bulk Plant Meters** – A device capable of delivering liquid products at a high rate of volume per minute.

**Computing/Hanging/Counter/Platform Scales** – A device with a low nominal rated capacity used in the majority of direct retail sales transactions.

**Crane Scales** – A device with a nominal capacity of 5,000 pounds or more designed to weigh loads while suspended freely from an overhead, track-mounted crane.

**Hopper Scales** – A scale designed for weighing bulk commodities whose load-receiving element is a tank, box, or hopper mounted on a weighing element.

**Liquefied Petroleum Gas (LPG) Meters** – A system including a mechanism or machine of the meter type designed to measure and deliver liquefied petroleum gas in the liquid state by a definite quantity, whether installed in a permanent location or mounted on a vehicle.

**Livestock Scales** – A scale equipped with stock racks, gates, and other adaptations for weighing livestock standing on the scale platform.

**Moisture Machines** – A device that indicates either directly or through the use of conversion tables and/or correction tables the moisture content of grains and seeds.

**Monorail Scales** - A device used to weigh livestock carcasses that may be used as a static or dynamic indicator, mounted on a truck and tree assembly that travels on a monorail system.

**Petroleum Dispensers** – A device designed for the measurement and delivery of liquids used as fuel for internal-combustion engines. Normal single deliveries of less than 50 gallons.

**Railroad Scales** - A device used to weigh railroad cars that may be used as a static or dynamic indicator.

**Truck Stop Dispensers** – A device designed for the measurement and delivery of liquids used as fuel for internal-combustion engines. Normal single deliveries of 50 gallons or more.

**Vehicle On-Board Weighing System** – A weighing system designed as an integral part of or

attached to the frame, chassis, lifting mechanism, or bed of a vehicle, trailer, industrial truck, industrial tractor, or forklift truck.

**Vehicle Scales** – A scale adapted to weighing highway, farm, or other large industrial vehicles loaded or unloaded.

**Vehicle Tank Meters** – A meter mounted on a vehicle tank including those used for the measurement and delivery of petroleum products or agri-chemical liquids such as fertilizers, feeds, pesticides, and bulk deliveries of water.

**Warehouse Scales** – A device usually having a nominal rated capacity greater than 5,000 pounds which is permanently mounted in the floor where located.