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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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 by October 1 of each year 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, 2005, staff:

- Inspected 71,043 of the 107,716 weights and measures devices used in commercial transactions in Virginia, or 66% of the total population.
- Posted an overall frequency of inspection per device of 18 months.
- Spent 2,100 hours investigating 633 consumer complaints and determined violations in 21% of those cases.

These results were achieved with existing staffing and funding resources in FY 2005.

This report also includes several informational charts, as well as copies of the changes to Title 3.1, Chapters 35 and 35.1of the Code of Virginia which went into effect on July 1, 2005.

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 by October 1 of each year 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, including the number and frequency of inspections for the weights and measures 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. The Commissioner of VDACS was then required to collect a registration fee of $9.00 for each weights and measures device that was subject to inspection, an action that generated $961,000 in non-general fund (NGF) revenue. This revenue adequately funded the staffing, support and equipment needs of the program.

The 2004 General Assembly, responding to concerns raised by industry, reduced the registration fee from $9.00 to $4.00 per device, which reduced funding for the program by $534,000 to $427,000. At that time, the Commissioner of VDACS was also instructed 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 provided $500,000 in GF appropriations. The General Assembly also approved a number of changes to Title 3.1, Chapters 35 and 35.1 that were proposed in the long-term plan indicated above, which were intended to address the programmatic challenges posed by the reduction in funding and resources. Those changes granted the Commissioner discretion to determine the frequency interval for inspections of commercial weight and measure devices, allowed for the random re-inspection of rejected devices and random initial verification of newly installed devices, and allowed for the acceptance of inspections of weights and measures by private companies as official inspections.

II. WEIGHTS AND MEASURES DEVICES IN VIRGINIA

VDACS' weights and measures program currently has 14,966 active business locations that operate 107,716 commercial weighing and measuring devices, an increase of 961 devices over the previous year. The following table details the number of devices by type. Please see Appendix A for the definition of each device type.

Device Type and Number

Device Type	Totals
Petroleum Dispensers	74,644
Computing/Hanging/Counter/Platform Scales	24,531
Vehicle Tank Meters	1,784
Taxi Meters	1,360
Liquefied Petroleum Gas Meters	1,346
Vehicle Scales	1,302
Truck Stop Dispensers	1,067
Bulk Plant Meters	633
Warehouse Scales	456
Hopper Scales	235
Vehicle On-Board Weighing System	139
Moisture Machines	77
Livestock Scales	58
Railroad Scales	47
Analytical Balance	25
Crane Scales	6
Belt Conveyor Scales	4
Monorail Scales	2
Grand Total	107,716

III. STAFFING RESOURCES

As of June 30, 2005, the weights and measures program has 32.0 FTE positions filled and 8.0 FTE vacancies. In addition to weights and measures inspections, staff is involved in the regulation of motor fuel quality and agricultural commodities, which require the equivalent of 2.0 FTE and 5.0 FTE positions, respectively. Thus, the effective number of FTE's who perform weights and measures inspection is 25.0. For purposes of this document, only those activities related to the inspection of weights and measures devices will be discussed.

17 of the 25 FTE 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.

Seven FTE equivalents 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 includes 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 remaining FTE position performs metrology calibrations for government and industry clients. This is a laboratory position that performs 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.

Newly employed inspectors typically undergo six months of classroom and field training. This provides a minimal level of training that serves as the foundation for experiences that are encountered in the field. Experience indicates that it may take up to three years before the average field inspector is fully prepared to address all aspects of the field work that may be encountered. In order to keep abreast of the changes in technology, field inspectors must be trained on a continuing basis. During FY 2005, over 2,150 work hours involved field staff training on technological advancements in the field of weights and measures.

IV. INSPECTION ACTIVITIES BY DEVICE GROUP

The largest area of inspection activity involves testing and inspecting 79,474 petroleum product measuring devices that are used to measure gasoline, diesel fuel, fuel oils, liquefied petroleum gas products (LPG), kerosene, aviation gasoline, and jet fuel. During FY 2005, inspections were completed on 51,841 measuring devices or 65.2 percent of the total population.

Measuring Device Inspections

Device Type	Population	Number Inspected	Percent Rejected	Number of Re-inspections
Petroleum Dispensers	74,644	49,632	16.0%	10,736
Vehicle Tank Meters	1,784	525	28.0%	105
LPG Meters	1,346	735	36.0%	431
Truck Stop Meters	1,067	858	20.0%	178
Bulk Plant Meters*	633	91	10.0%	7

*Meters inspected on a random basis.

Weighing devices represent 26,780 of the reported 107,716 devices inspected. These devices are used to weigh retail purchases, road and other construction materials, agricultural products, and household goods. During FY 2005, inspections were completed on 17,740 weighing devices or 66.2 percent of the total population.

Weighing Device Inspections

Device Type	Population	Number Inspected	Percent Rejected	Number of Re-inspections
Retail Scales	24,531	15,737	9.0%	1,669
Vehicle Scales	1,302	1,119	25.0%	402
Warehouse Scales	456	390	15.0%	57
Hopper Scales	235	223	12.0%	28
Livestock Scales*	58	84	13.0%	10
On-Board Weighing	139	139	16.0%	18
Other Scales	59	48	13.0%	6

*Through an agreement with USDA several devices are inspected on a semi-annual basis.

Not included in the previous tables are the inspections of 1,360 taxi meters operated in 14 localities, 77 moisture machines used to determine the moisture content of peanuts and 25 analytical balances used in conjunction with these moisture machines, and 214 privately owned livestock scales which are inspected by part-time employees who are utilized solely for this type of inspection work.

V. OTHER FIELD INSPECTION ACTIVITIES

During FY 2005, surveillance activities related to motor fuel quality, accuracy of packaged commodities, sales of agricultural products, and point-of-sales systems involved over 7,200 inspection hours. The number of samples is listed below.

Inspection Activity	Samples Verified
Retail Store Prepared Packaged Commodities	48,484
Point-of-Sales Pricing Verified (Scanners)	34,030
Motor Fuel Quality Samples	3,889
Factory Prepared Packaged Commodities	3,533
Livestock Reweighed for Accuracy at Time of Sale	412
Tobacco Piles Reweighed for Accuracy at Time of Sale	183

VI. METROLOGY ACTIVITIES

The work unit operates a Metrology Lab that performs a wide variety of testing for industry and other government clients. The number of sampling jobs for FY 2005 appears below.

Standard Type	Industry Client	Government Client
Tolerance Test Less than 10 lbs.	2,448	1,572
Tolerance Test 10 to 50 lbs.	1,864	260
Tolerance Test 51 to 1,000 lbs.	276	84
Value Determination 3 kg and less	142	125
Volumetric Provers Less than 10 gallons	60	85
Thermometers	31	57
Tolerance Test over 1,000 lbs.	27	4
Volumetric Provers Greater than 10 gallons	11	5
Length Standards	6	6
Radar Tuning Forks	0	2,667
Value Determination Greater than 3 kg	0	17

VII. COMPLAINT INVESTIGATION ACTIVITIES

Each year, VDACS receives approximately 600 consumer complaints that result in field investigations and evaluations. During FY 2005, over 2,100 work hours were devoted to the investigation of 633 consumer complaints related to program activities. Investigations determined violations in 21 percent of the complaints reported by consumers. The following table summarizes the complaint investigation activities.

Consumer Complaint Investigations

Type of Complaint	Number of Complaints Received	Number of Allegations Determined Valid	Percent of Complaints Found Valid
Petroleum Quantity	342	37	10.8%
Petroleum Other	120	47	39.2%
Petroleum Quality	57	8	14.0%
Petroleum Advertising	35	15	42.9%
Retail Weighing	17	6	35.3%
Other Weighing	16	3	18.8%
Advertising	9	6	66.7%
Other Measuring	9	1	11.1%
Point-of-Sales (Scanners)	9	6	66.7%
Firewood Measurement	4	3	75.0%
Other	15	1	6.7%

VIII. ENFORCEMENT AND COMPLIANCE ACTIVITIES

The program seeks to administer its regulatory mandates in the least intrusive manner possible. Our philosophy is to inform, educate, and as a final step, take enforcement action. Under normal situations, when a device is found to be incorrect the device is rejected. This action 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 allowed up to 10 days to initiate the necessary repairs or remove the device from commercial use. In extreme situations, that involve egregious errors, the device is condemned and immediately removed from commercial service.

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 FY 2005, penalty assessments in the total amount of $6,760 were issued for 35 violations against 10 companies. Violations occurred in four major areas of enforcement: Short Weight Packaging, 23 violations; Unacceptable Repairs by a Service Technician, 8 violations; Failure to Maintain Equipment, 3 violations; and one violation for Misrepresentation of Price.

IX. OPERATIONAL IMPACT OF AMENDMENTS TO TITLE 3.1

The 2005 Session of the General Assembly adopted changes to Chapters 35 and 35.1 of Title 3.1 of the Code of Virginia which granted the Commissioner discretion to determine the frequency interval for inspections of commercial weight and measure devices, allowed for the random re-inspection of rejected devices and random initial verification of newly installed devices, and allowed for the acceptance of inspections of weights and measures by private companies as official inspections. (Please see Appendix B for the actual changes to the Code). The changes also necessitated the formulation of an inspection strategy based on factors unique to each type of device, monetary impact of device error, available resources, and achievable levels of staff productivity.

Performing re-inspection of rejected devices on a random basis will be of particular operational significance. Depending on the type of device, staff has traditionally spent anywhere from 10% to 25% of total inspection time on the re-inspection of previously rejected devices. For instance, the re-inspection of gasoline dispensers accounts for 21.6% of the total time spent inspecting those devices. For vehicle scales and fuel oil truck meters the figures are 35.9% and 20.7%, respectively.

During FY 2005, program staff inspected 71,043 of the 107,716 weights and measures devices used in commercial transactions in Virginia, or 66% of the total population of devices. The overall frequency of inspections per device was 18 months. Barring the occurrence of another crisis like the fuel shortage and subsequent allegation of price gouging incidents in the aftermath of Hurricane Katrina, the implementation of legislative changes during FY 2006 should allow staff to bring the frequency of inspections closer to the traditional 12 month cycle. However, since the changes have been in effect for only 90 days as of this writing, it is somewhat premature to estimate their full impact. The next annual report should yield more relevant data.

Definition of Device Type

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.

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.

Taxi Meters – A device that automatically calculates, at a predetermined rate or rates, and indicates the charge for hire of a vehicle.

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.

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.

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

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.

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

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

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

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

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

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.

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

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.

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.

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.

The following amendments to the Code became effective July 1, 2005:

§ 3.1-928. Testing and inspection of weights and measures offered for sale or commercially used.

When not otherwise provided by law, the Commissioner shall have the power to inspect and test, to ascertain if they are correct, all weights and measures kept, offered, or exposed for sale. It shall be the duty of the Commissioner~~, within a twelve-month period, or less frequently if in accordance with a schedule issued by the Board, and as much oftener as he may deem necessary,~~ to inspect and test *on a periodic basis as he deems necessary*, to ascertain if they are correct, all weights and measures commercially used (i) in determining the weight, measurement, or count of commodities or things sold, or offered or exposed for sale, on the basis of weight, measure, or of count or (ii) in computing the basic charge or payment for services rendered on the basis of weight, measure, or count. However, with respect to any single-service devices and any uniformly mass-produced devices, a test may be made on representative samples of such devices; and any lot of which such samples are representative shall be held to be correct or incorrect upon the basis of the results of the inspections and tests on such samples. As used in this chapter, "single-service devices" means any devices designed to be used commercially once and then discarded. "Uniformly mass-produced devices" includes, but is not limited to, any devices made by means of a mold or die, and not susceptible to individual adjustment.

§ 3.1-969.10. Service of weights and measures; repair.

A. Any registered service agency or any certified service technician in the employ of the service agency may: (i) place into service, subject to a~~n~~ *random* official inspection, a new or used weight or measure and (ii) following corrective repair, remove any rejection tag or condemnation tag and return the weight or measure to service~~, subject to an official inspection~~.

B. A service agency or service technician in the employ of the service agency exercising authority under subsection A of this section shall adjust any weight or measure governed by subsection A as closely as practicable to zero error. (1992, c. 242.)

§ 3.1-969.12. Service report.

Every service agency shall furnish each service technician in its employ with a supply of report forms entitled "Placed into Service Report" prescribed by the Commissioner. Within forty-eight hours after its service technician has placed in or restored to service a weight or measure, the service agency shall provide to the Commissioner a fully executed Placed into Service Report, together with any rejection tag or condemnation tag removed from the weight or measure. The service agency shall provide a copy of the fully executed Placed into Service Report to the owner or operator of the weight or measure and shall retain for a period of one year, reckoned from the date of execution, a copy of the fully executed Placed into Service Report, which is subject to inspection by the Commissioner. *The Commissioner may accept the Placed into Service Report as sufficient to meet the statutory testing and inspection requirements in §3.1-928.* (1992, c. 242.)