

Michigan Department of Agriculture & Rural Development
LABORATORY DIVISION
METROLOGY LABORATORY



Manager: Craig VanBuren, 517-655-7223, vanburenc9@michigan.gov

Legal Authority: [The Weights and Measures Act, Public Act 283 of 1964, as amended](#)

Description of the Program:

The E.C. Heffron Metrology Laboratory directly supports all legal metrology activities of the Weights and Measures Program. The lab houses Michigan’s primary standards for weight, measure, and temperature, and is accredited by the NVLAP to conduct Echelon I mass calibrations. The Lab supports state/county/city highway weight-limit enforcement programs by certifying vehicle axle scales (wheel load weighers). The lab also provides traceability to national standards for Michigan’s wide variety of high-tech, manufacturing, and heavy industries by offering fee-based testing and calibration services. The Lab’s high level of accreditation, expertise, and accessibility makes it one of the busiest precision mass laboratories in the nation.



NVLAP Lab Code 200408-0

Why it matters:

Benefits of the Lab include: ensuring accuracy and stability in the commercial measurement system; technical support of other state agencies; the facilitation of high tech and precision manufacturing; protecting Michigan’s roads from overweight vehicles through the use of portable wheel load scales; and the promotion of safety.

Key Stakeholders

- Michigan public (ensuring correct weights and measures in the marketplace)
- Weights & Measures/Motor Fuel Quality Programs
- Multiple Michigan industries

Deliverables

- Maintain ISO/IEC 17025 Accreditation
- Maintain NIST Traceability
- Calibration of State Field Standards
- Calibration of Registered Service Agency Equipment
- Support Michigan’s Manufacturing Industry

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Accomplishments:

- NIST Certificate of Measurement Traceability renewed
- National Voluntary Laboratory (NVLAP) Accreditation
- Conformance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC), including ISO/IEC 17025 and Guide 58

All three of the above allow the Lab to support many Michigan industries and businesses. Without the accomplishments above, many businesses would be forced to look for the Lab's services out of state, which would increase their down-time and cost the businesses significantly more.

Measuring Success:

Metric – Testing					
Mass Standards			Echelon 1	Echelon 2	Echelon 3
Internal			64	120	157
External			1,396	410	5,827
Volumetric Standards	Gravimetric	LP Gas	Small Volume Provers	</= 5 Gallon	> 5 Gallon
Internal	3	3	-	57	3
External	7	6	8	101	24
Other				Wheel Load Weighers	
External				385	

Program Goals:

- Renew NIST Certificate of Traceability
- Maintain NVLAP Accreditation
- Retain ISO and IEC conformance

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WEIGHTS & MEASURES PROGRAM



Manager: Robert DeRubeis, 517-655-7227, derubeisr@michigan.gov

Legal Authority: [The Weights and Measures Act, Public Act 283 of 1964, as amended](#)
[Shopping Reform and Modernization, Public Act 15 of 2011](#)

Description of the Program:

- The state **Weights and Measures Program** is the only program charged with protecting both consumers and industry from economic harm caused by unfair, unscrupulous, or fraudulent business practices for goods and services based on weight, measure, or count. The W&M Program enforces well-established, uniform weights and measures practices; investigates complaints; ensures the proper operation of commercial weighing and measuring devices; ensures net content of packaged commodities; conducts undercover investigations; and initiates civil or criminal actions when necessary. The W&M program registers servicepersons to ensure that industry “best practices” are used. The W&M program provides trade assistance when exporters require state weight, measure, or device certification for export. Through participation in regional and national weights and measures associations, the W&M program works cooperatively with industry to promote weights and measures uniformity, while promoting new business technologies. The W&M program benefits every consumer and business by maintaining consumer confidence in the commercial marketplace and ensuring a level playing field for competing businesses.



- **Why it matters:**

It is estimated that the sales of products and services impacted by weights and measures represents approximately 50 percent of Michigan’s GDP. The Weights and Measures Program ensures equity and a level playing field within the market between both business to business transactions and the business to consumer transactions.

Key Stakeholders	Deliverables
<ul style="list-style-type: none"> • Consumers and producers in Michigan • Associated Food and Petroleum Dealers • Michigan Grocers Association • Michigan Agri-business Association • Michigan Propane Gas Association • Michigan Petroleum Association/Michigan Association of Convenience Stores • Petroleum Quality Institute of America 	<ul style="list-style-type: none"> • Commercial Device Inspections* 4,402 • Unique Devices Inspected* 18,769 • Total Device Tests* 74,542 • Total Packages Checked 11,831 • Registered Service Agencies 129 • Registered Service Persons 470 <p>*Does not include the re-inspection of condemned devices.</p>

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WEIGHTS & MEASURES PROGRAM



Accomplishments:

- MDARD's Weights and Measures Program continued to lead efforts to protect the consumers of Michigan from fraud. A key example of this effort was a precedent-setting, 14-month investigation involving 19 MDARD staff, the Michigan Attorney General's Office, Michigan State Police, and Dearborn Police that concluded in 2014. Two Michigan companies were found to be offering motor oil that was short filled as well as filled with oil with the potential to damage vehicle engines. A statewide stop-sale was issued removing thousands of quarts of motor oil from store shelves and four individuals were criminally prosecuted and found guilty of felony violations of the Weights and Measures Act. If undetected, these violations could have defrauded thousands of consumers in the state and nationwide. These efforts placed MDARD's Weights and Measures Program in a position of high regard with both local and national industry stakeholders.
- To ensure consumers are receiving the correct amount of fuel at the pump, MDARD's Consumer Protection Section has found efficiencies in the inspection and investigation processes. Through these efficiencies we have realized a 60 percent reduction in the number of gas stations exceeding our four year inspection cycle target. An additional benefit to getting to more gas stations more often is our increased visibility which has the effect of deterring those who may have unscrupulous intentions.

Measuring Success:

Inspections	Approved	Condemned	Compliance
Net Content Packages	8,862	2,969	74.9%
Retail Motor Fuel Dispensers**	49,072	3,197	93.9%
Non-Gas Weighing and Measuring Devices	3,145	266	92.2%
Complaints	Investigations		
Gasoline Short Measure**	1,477		
Other Weights and Measures	107		
Item Pricing / Shopping Reform	114		
Enforcement			
Compliance Meetings	12		
Warning Letters	35		
Fines	(56) \$1,896,078		
Number of Seizures	56		
Product Value	\$2,364,628		
Product Volume	4,603,600 lbs.		

Program Goals:

- Test 25% of all retail gasoline dispensers annually while maintaining a 97% compliance rate and promoting consumer confidence.
- Test 12,000 packages every year for accuracy of net content.
- Conduct 250 audits of work conducted by registered service persons.

** Motor Fuel complaints were jointly investigated with MDARD's Motor Fuels Quality Program.

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MOTOR FUELS QUALITY PROGRAM



Manager: Tim White, 517-655-7226, whitet@michigan.gov

Legal Authority: [The Motor Fuels Quality Act, Public Act 44 of 1984](#), as amended and applicable regulations

Description of the Program:

The Motor Fuels Quality Program ensures that Michigan’s motoring public can be confident they are receiving quality motor fuels that meet minimum state standards. Further, the Motor Fuels Quality Program ensures gasoline sold in the eight county Southeast Michigan Region meets the low vapor pressure requirement for summertime gasoline; helping the region to maintain compliance with the Federal Clean Air Act. The Motor Fuels Quality program investigates complaints related to motor fuel quality, randomly samples retailers to ensure motor fuels meet state standards, monitors the entire motor fuel distribution chain from refinery to distributor/wholesaler to retail, provides technical guidance and assistance to motor fuel retailers as necessary, and licenses over 4700 motor fuel retailers.



Why it matters:

Michigan’s motoring public purchases over 5 billion gallons of Motor Fuel annually, sight unseen; receiving substandard motor fuel can damage automobile engines resulting in significant repair costs. The low vapor pressure program assists the Southeast Michigan region in maintaining compliance with the Clean Air Act; enabling people in Southeast Michigan to breathe clean air.

Key Stakeholders
<ul style="list-style-type: none"> Michigan Consumers and Producers of Fuel Associated Food and Petroleum Dealers Michigan Petroleum Association/Michigan Association of Convenience Stores Associated Petroleum Industries of Michigan Michigan Retailers Association

Deliverables
<ul style="list-style-type: none"> Official Samples Procured..... 2,819 Vapor Recovery Audits..... 535 Field Octane Audits 3,183 1-800-MDA-Fuel Complaints* 1,780 Licensed Establishments..... 4,759
<p>*Motor Fuel Quantity complaints were jointly investigated with MDARD’s Weights & Measures Program</p> <p>Note: Complaints outside the Program’s area of responsibility received via the MFQ Hotline were forwarded to the appropriate agency</p>

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MOTOR FUELS QUALITY PROGRAM



Accomplishments:

- Maintained a 93 percent compliance rate for gasoline sold throughout Michigan; and a 98.9 percent compliance rate for gasoline meeting the low vapor pressure standard in Southeast Michigan. This ensured those purchasing fuels were getting the product they paid for and helped reduce smog producing emissions by 28 tons per day, respectively.
- Through testing and sampling of product, embargoed 2,349 gallons of substandard or contaminated motor fuels with a value of over \$750,000. This prevented the product from being used in the public's vehicles and potentially causing both vehicle and monetary damage.

Measuring Success:

Metric			
Motor Fuels Samples	Passed	Failed	Compliance
Sub Regular – 86 Octane	14	2	87.5%
Regular – 87 Octane	1,092	19	98.3%
Midgrade - 88 Octane	1	-	100%
Midgrade – 89 Octane	662	22	96.8%
Premium – 90 Octane	43	2	95.6%
Premium – 91 Octane	96	8	92.3%
Premium – 92 Octane	48	9	84.2%
Premium – 93 Octane	619	56	91.7%
Premium – 94 Octane	-	-	-
Other	126	2	98.4%
Vapor Recovery Field Audits	529	6	98.9%
Complaints			Investigations
Motor Fuels Quality			303
Enforcement Actions			
Compliance Meetings			23
Warning Letters			1,151
Administrative Fines			(112) \$83,467
Stop Sales / Estimated Retail Value of Embargoed Product			(83) \$750,400

Program Goals:

- Obtain motor fuel samples at 25% of motor fuel retailers annually.
- Conduct low vapor pressure testing at 20% of the retailers in the Southeast Michigan region.
- Obtain 2500 motor fuel samples.