



METROLOGY LABORATORY

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The E.C. Heffron Metrology Laboratory directly supports all legal metrology activities of the weights and measures programs. The lab houses Michigan's primary standards for weight, measure, and temperature, and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) to conduct Echelon I mass calibrations. The lab supports state, county, city, and 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.

IMPACT FOR MICHIGAN:

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.

ACCOMPLISHMENTS:

- NIST Certificate of Measurement Traceability renewed
- National Voluntary Laboratory 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:

Mass Standard Testing			Echelon 1	Echelon 2	Echelon 3
Internal			46	21	339
External			-	1516	6004
Volumetric Standards	Gravimetric	LP Gas	Small Volume Provers	<= 5 Gallon	> 5 Gallon
Internal	2	2	-	52	3
External	17	6	11	129	46
Other			Wheel Load Weighers		
External			397		

PROGRAM GOALS:

- Renew NIST Certificate of Traceability
- Maintain NVLAP Accreditation
- Retain ISO and IEC conformance
- Calibration of State Field Standards
- Calibration of Registered Service Agency Equipment
- Support Michigan's Manufacturing Industry



KEY STAKEHOLDERS

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



WEIGHTS AND MEASURES PROGRAM

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The 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 program enforces well-established, uniform weights and measures practices; investigates complaints; ensures the proper operation of commercial weighing and measuring devices; determines the accuracy of the net content of packaged commodities of packaged commodities; conducts undercover investigations; and initiates civil or criminal actions when necessary. The W&M program registers servicepersons ensuring industry “best practices” are used and provides trade assistance when exporters require state weight, measure, or device certification for export.

IMPACT FOR MICHIGAN:

It is estimated the sales of products and services impacted by weights and measures represents approximately 50% of Michigan’s Gross Domestic Product. 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.

ACCOMPLISHMENTS:

- Worked with federal, state, county and local law enforcement in preventing approximately \$5.2 million dollars of fraudulent credit card purchases and an unknown number of identity thefts.
- Performed 74,596 tests on 17,807 unique devices while conducting 4,356 commercial device inspections
- 12,970 total packages checked
- Registered 128 service agencies and 518 servicepersons

MEASURING SUCCESS:

Inspections	Approved	Condemned	Compliance*
Net Content Inspections	8,097	4,873	63.43%
Retail Motor Fuel Dispensers**	47,684	2,325	95.35%
Non-Gas Weighing and Measuring Devices	2,369	169	93.34%
* Does not include re-inspection of condemned devices			
Complaints			Investigations
Gasoline Short Measure**			1,113
Other Weights and Measures			52
Item Pricing / Shopping Reform			64
** Motor Fuel complaints were jointly investigated with MDARD's Motor Fuels Quality Program			

PROGRAM GOALS:

- Continue providing oversight of Michigan's \$700 billion dollar weights and measures commerce at a rate of about 15 cents per Michigan citizen.
- Serve as a deterrent to potential violators through the use of warning letters and civil penalties.
- Test 25% of all retail gasoline dispensers annually while maintaining a 97% compliance rate.
- Test 12,000 packages every year for accuracy to protect consumers from economic harm by monitoring compliance with net content requirements for packaged commodities
- Conduct 250 audits of work performed by service persons and agencies who work on installing and maintaining weights and measures commercial devices.



KEY STAKEHOLDERS

- 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

MOTOR FUELS QUALITY PROGRAM

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The Motor Fuels Quality Program ensures 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 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.

IMPACT FOR MICHIGAN:

Michigan's motoring public purchases more than 5 billion gallons of motor fuel annually, sight unseen. Receiving sub-standard 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.

ACCOMPLISHMENTS:

- Maintained a 97 percent compliance rate for gasoline sold throughout Michigan; and a 94.3 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 144,450 gallons of substandard or contaminated motor fuels with a value of over \$380,400. This prevented the product from being used in vehicles and potentially causing both vehicle and monetary damage.

MEASURING SUCCESS:

Metric	2015	2016
Official Samples Procured	3,634	3,776
Vapor Recovery Samples	654	614
Field Octane Audits	2,679	2,738
1-800-MDA-Fuel Complaints*	1,481	1,431

PROGRAM GOALS:

- Obtain motor fuel samples at 75% of motor fuel retailers annually.
- Conduct low vapor pressure testing at 20% of the retailers in the Southeast Michigan region.
- Obtain 3,750 motor fuel samples.



KEY STAKEHOLDERS

- 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

LEGAL AUTHORITY:

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

* Motor Fuels quantity complaints were jointly investigated with the Michigan Department of Agriculture and Rural Development's Weights and Measures Program.