



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			30	24	294
External			-	1,660	7,818
Volumetric Standards	Gravimetric	LP Gas	Small Volume Provers	</= 5 Gallon	> 5 Gallon
Internal	6	-	-	40	2
External	20	7	8	136	33
Other			Wheel Load Weighers		
External			341		

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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MDARD's Weights and Measures Program is the only agency 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 Weights & Measures 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 percent 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. The program works closely with the State Police, Federal Bureau of Investigations and United States Secret Service, to protect consumers from electronic credit card fraud as a result of credit card skimming devices.

ACCOMPLISHMENTS:

- Worked with federal, state, county and local law enforcement in preventing approximately \$2,000,000 of fraudulent credit card purchases and an unknown number of identity thefts.
- Performed 79,825 tests on 24,369 unique devices while conducting 3,754 commercial devices inspections.
- 12,226 total packages checked
- Registered 124 service agencies and 508 servicepersons.

MEASURING SUCCESS:

Inspections	Approved	Condemned	Compliance*
Net Content Inspections	12,404	4012	75.56%
Retail Motor Fuel Dispensers**	59,437	5.632	91.34%
Non-Gas Weighing and Measuring Devices	3,101	104	96.76%
* Does not include re-inspection of condemned devices			
Complaints			Investigations
Gasoline Short Measure**			575
Other Weights and Measures			399
Item Pricing / Shopping Reform			99
** Motor Fuel complaints were jointly investigated with MDARD's Motor Fuels Quality Program			

PROGRAM GOALS:

- Continue providing oversight of Michigan's \$700 billion weights and measures commerce at a rate of about 15 cents per Michigan resident.
- 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.
- Ensure credit card readers are secure at retail motor fuel devices, in order to prevent the theft of personal information.
- Investigate consumer complaints related to motor oils at Michigan oil change facilities, including car dealerships, involving misbranding and quality.



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 gasoline and diesel fuel 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 approximately 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 98.7 percent compliance rate for gasoline sold throughout Michigan; and a 99.1 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.
- Maintained a 97.4% compliance rate for diesel fuel.
- Through testing and sampling of product, embargoed 30,800 gallons of substandard or contaminated motor fuels with a value of over \$94,100. This prevented the product from being used in vehicles and potentially causing both vehicle and monetary damage.

MEASURING SUCCESS:

Metric	2017	2018
Official Samples Procured	4,001	4,395
Vapor Recovery Samples*	548	648
Field Octane Audits	2,923	1,800
1-800-MDA-Fuel Complaints**	1,207	1,303

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 4,000 motor fuel samples annually.



KEY STAKEHOLDERS

- Michigan Consumers and producers of Fuel
- Associated Food and Petroleum Dealers-Michigan
- 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.