

THE COMMONWEALTH OF MASSACHUSETTS



Fuel Efficiency Standard for State Fleet



Section I – Purpose of the Fuel Efficiency Standard

This fuel efficiency standard is being issued by the Operational Services Division (OSD), in collaboration with the Department of Energy Resources (DOER) and Massachusetts Department of Environmental Protection (MassDEP), to fulfill the requirements of Chapter 169, Section 1 of the Green Communities Act.¹ In addition, this standard will help achieve the greenhouse gas emission reduction targets for state agencies and the statewide emission reduction targets established in the Clean Energy and Climate Plan for 2020²; as well as support the multi-state memorandum of understanding³ that commits eight states on the East and West coasts to putting 3.3 million zero-emission vehicles (ZEVs) on the road by 2025.

Highly efficient gasoline vehicles, or those that use alternative fuels, can reduce greenhouse gas emissions, minimize tailpipe emissions of other pollutants, and reduce the total cost of ownership. This fuel efficiency standard requires the Commonwealth's state agencies to purchase more fuel efficient vehicles and those using advanced technologies while also providing flexibility in meeting these requirements in recognition of diverse agency needs and changing technologies.

OSD, DOER and MassDEP are committed to working collaboratively with agency fleet managers to ensure compliance with the standard and provide technical assistance and guidance as required.

Section II – Applicability and Effective Date

1. All requirements of the Fuel Efficiency Standard for the State Fleet shall:
 - a) Apply to all light-duty vehicle acquisitions with a gross vehicle weight rating (GVWR) of 10,000 pounds or less;
 - b) Apply to vehicle acquisitions made by each executive branch state agency and to any vehicles acquired through the Office of Vehicle Management;
(Those vehicles meeting the criteria in both a) and b) are hereinafter referred to as "eligible vehicles.")
 - c) Take effect on September 26, 2016;
 - d) Be applied to total eligible vehicle acquisitions made by each agency each fiscal year (FY) running from July 1st through June 30th. The FY17 requirements will be applied to vehicle acquisition requests made between September 26, 2016 and June 30, 2017 only.
2. As defined in Section VII, authorized emergency vehicles, and light and medium duty vehicles that weigh greater than 10,000 pounds shall be exempt from all requirements of this standard.

Section III – Vehicle Fuel Efficiency Requirements

1. When acquiring new eligible vehicles each agency shall:
 - a) Achieve an average EPA-estimated combined fuel efficiency of 32 Miles per Gallon (MPG) for passenger cars and;

¹ Chapter 169, Section 1 of "An Act Relative to Green Communities"
<https://malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169>

² "MA Clean Energy and Climate Plan for 2020", December 2010
<http://www.mass.gov/eea/docs/eea/energy/2020-clean-energy-plan.pdf>

³ State Zero Emission Vehicle Programs Memorandum of Understanding, October 2013
<http://www.nescaum.org/documents/zev-mou-8-governors-signed-20131024.pdf/view>

- b) Achieve an average EPA-estimated combined fuel efficiency of 22 Miles per Gallon (MPG) for light duty trucks, passenger and cargo vans and Sport Utility Vehicles (SUVs).

The above stated MPG requirements⁴ shall apply to all eligible vehicle acquisitions by each agency regardless of the number of vehicles acquired.

2. Each agency shall acquire a minimum number of vehicles defined in this standard as Plug-in Hybrid Electric Vehicles (PHEVs), Battery Electric Vehicles (BEVs), Hybrid Electric Vehicles (HEVs) and/or Alternative Fuel Vehicles (AFVs) for all acquisitions subject to this standard. Beginning in FY2017, at least five percent (5%) of all agency acquisitions must be PHEVs, BEVs, HEVs or AFVs. Where applicable, all percentage requirements shall be rounded to the closest whole number.

Any agency acquiring 10 or more eligible vehicles in a given fiscal year must acquire at least one PHEV, BEV, HEV or AFV. Allowable vehicles include dedicated alternative fuel vehicles, bi-fuel vehicles operating on alternative fuel at least 50% of the time, Hybrid Electric Vehicles (HEVs), Plug-in Hybrid Electric Vehicles (PHEVs) and Battery Electric Vehicles (BEVs).

Section IV – Reporting

1. By August 31, 2017, all executive branch state agencies must provide to the Office of Vehicle Management (OVM) a list of all light duty vehicles (excluding authorized emergency vehicles) that are currently in operation that have not been purchased through OVM. Such information must include the vehicle make, model, model year, fuel type and the estimated EPA combined mileage rating, and whether it is an eco-boost engine.
2. By August 31st of each year, all executive branch state agencies must provide to OVM a list of all light duty vehicles acquired the previous year that have not been acquired through OVM. Such purchases are subject to this standard.

Section V – Green Fleet Committee

1. A Green Fleet Committee shall be formed with members from the Operational Services Division, the Department of Energy Resources, and the Department of Environmental Protection. The Green Fleet Committee shall be chaired by the Department of Energy Resources and shall:
 - a. Develop an intra-agency MPG Credit Trading Program that enables each state agency to earn credits if the combined average fuel economy in either vehicle category exceeds the requirement set forth in Section III Subsection 1 in any given year.
 - b. Develop a credit system for other methods of achieving compliance such as:
 - i. vehicles acquired that utilize alternative fuels for at least 50% of their annual fuel consumption and for dedicated alternative fuel vehicles;
 - ii. the retirement of older vehicles without replacement;
 - iii. utilization of after-market clean vehicle technologies;
 - iv. the use of biodiesel in any fleet vehicles, including those for which this standard does not apply.
 - c. Consider and implement other allowable strategies that support the environmental goals of this standard.
 - d. Develop guidance documents and other tools to support agency fleet efforts to meet the requirements of this standard.

⁴ Average MPG calculations for new agency acquisitions will be made using a Harmonic Mean, not a simple Arithmetic Mean, in an effort to measure the impact on the volume of fuel consumed per a fixed distance traveled.

- e. Evaluate, and revise if necessary, the above stated fuel efficiency requirements and hybrid, AFV, PHEV and BEV targets. Such review shall consider all relevant laws and regulations, including but not limited to, the Green Communities Act and the “Multi-State ZEV Action Plan”⁵, to ensure the Commonwealth is on target to meet the stated mandates;
- f. Make recommendations of vehicles to be added or removed from the applicable statewide contract(s);
- g. Report on the progress made to achieve the goal of 50% of motor vehicles owned and operated by the Commonwealth are alternative fuel or hybrid, as mandated by Chapter 169, Section 1 of An Act Relative to Green Communities and Section III, Subsection 3 in this standard;
- h. Research and communicate funding opportunities available to state agencies that can be utilized to meet the requirements of this standard.

The Green Fleet Committee shall invite at least two representatives of agency fleets to participate in an advisory role and attend GFC meetings as appropriate, which shall occur periodically but at least annually. In their advisory role, fleet representatives shall review and make recommendations regarding the actions of the GFC and other elements of the standard.

Section VI – Review Process

The Operational Services Division shall consult with the Departments of Energy Resources and Environmental Protection in accordance with Section 1 of Chapter 169 of the Green Communities Act. OSD, in consultation with DOER and DEP, shall work with each agency to revise vehicle acquisition requests that do not meet the requirements set forth in Section III unless:

- a) The agency in question demonstrates it has met the standard through other means, including but not limited to: the use of advanced biodiesel, the use of after-market clean vehicle technologies, or vehicle retirement.
- b) The agency in question applies for an exemption (see Section VII) from Standard Compliance and submits an acceptable plan detailing how it intends to implement Alternative Compliance.

Section VII – Exemption

In recognition of those circumstances where the requirements set forth in Section III cannot be met through the use of currently available cost-effective technology, an agency has the option to request an exemption from Standard Compliance with the requirements outlined in Section III. To be eligible for an exemption in a given fiscal year, the agency must first demonstrate that substantial efforts have been made to meet the standard through cost-effective means. To be granted an exemption, an agency must then demonstrate its willingness and ability to implement an Alternative Compliance plan, through the execution of one or more additional measures that will measurably reduce petroleum use, including but not limited to:

- i. Increase the use of alternative fuels
- ii. Increase the use of biodiesel or higher biodiesel blends;
- iii. Adopt of one or more strategies to reduce vehicle miles traveled (VMT);
- iv. Institute idle reduction technologies and/or strategies;
- v. Institute other strategies or technologies for reducing petroleum use.

The Green Fleet Committee will make a ruling on whether or not to grant the exemption based on the information provided by the agency.

⁵ ZEV Program Implementation Task Force, Multi-State ZEV Action Plan, May 2014 <http://www.nescaum.org/topics/zero-emission-vehicles>

Section VIII -- Definitions

The definitions in this Section apply throughout this rule unless the context clearly requires otherwise.

"After market clean vehicle technologies" refers to vehicle modifications made after the original retail sale of the vehicle that result in more efficient vehicle operation, reduced tailpipe emissions of pollutants, and/or increased use of alternative fuels, including but not limited to hybrid and alternative fuel conversions.

"Alternative fuel" means an energy source used to power a vehicle that is not conventional gasoline or diesel fuel.

"Alternative fuel vehicle" means a vehicle powered by alternative fuel with the following attributes:

- i. The capability of operating only on alternative fuel;
- ii. Is designed to use alternative fuel and uses at least 50% alternative fuel for the total fuel consumption of the vehicle on an annual basis

"Authorized emergency vehicle" means any publicly owned vehicle operated by a sworn officer in performance of their duties, any authorized emergency vehicle used for fighting fires, any publicly owned authorized emergency vehicle used by an emergency medical technician or paramedic, or used for towing or servicing other vehicles, or repairing damaged lighting or electrical equipment, or any ambulance used by a private entity under contract with a public agency.

"Battery Electric Vehicle (BEV)" means a vehicle that plugs into the electric grid, operating solely on battery electric power, and has zero tailpipe emissions.

"Eligible Vehicle" means any vehicle that:

- i. Has a gross vehicle weight rating (GVWR) of 10,000 lbs. or less and,
- ii. Has been acquired by an executive branch state agency regardless of acquisition mechanism or by a non-executive branch agency through the Office of Vehicle Management

"EPA-Estimated Combined Fuel Efficiency" means the combined weighted average of city and highway MPG values that is calculated by weighting the city value by 55% and the highway value by 45%. The test data for city and highway MPG values is derived from vehicle testing done at the Environmental Protection Agency's National Vehicle and Fuel Emissions Laboratory and by vehicle manufacturers, who submit their own test data to EPA.

"Harmonic Mean" means the reciprocal of the arithmetic mean of reciprocals; it is commonly used in lieu of the arithmetic mean to calculate an average of rates. For the purpose of the Fuel Efficiency Standard, the Harmonic Mean is utilized to calculate the average MPG for new agency acquisitions to accurately measure the impact on gallons of gasoline consumed by vehicles driving a fixed annual distance.

"Hybrid vehicle" means a vehicle (a) which draws propulsion energy from onboard sources of stored energy which are both: (1) an internal combustion or heat engine using combustible fuel; and (2) a rechargeable energy storage system; or (b) which, in the case of a passenger vehicle, medium duty passenger vehicle or light truck: (1) for model year 2002 and later model year vehicles, has received a certificate of conformity under the Clean Air Act and meets or exceeds the equivalent qualifying California low emission vehicle standard adopted under section 243(e)(2) of said Clean Air Act for that make and model year; (2) for model year 2004 and later model vehicles, has received a certificate that the vehicle meets or exceeds the Tier II Bin 5 emission level established in regulations prescribed by the Administrator of the United States Environmental Protection Agency under section 202(i) of said Clean Air Act for that make and model year vehicle; and (3) achieves an increase of 25 per cent fuel efficiency as compared to the average vehicle of its class as defined by the United States Environmental Protection.

"Light duty vehicle" means a vehicle with a Gross Vehicle Weight Rating (GVWR) equal to or less than ten thousand pounds.

"Medium duty vehicle" means a vehicle with a Gross Vehicle Weight Rating (GVWR) greater than ten thousand pounds and less than twenty-six thousand pounds.

"Passenger vehicle" means passenger cars, passenger and cargo vans, pickup trucks and SUVs with a Gross Vehicle Weight Rating (GVWR) equal to or less than 10,000 lbs.

"Plug-In Hybrid Electric Vehicle (PHEV)" means a vehicle powered by an internal combustion engine that can run on conventional or alternative fuel and an electric motor that uses energy stored in a battery and that can be plugged into an electric power source to charge.