

MAINE STATE LEGISLATURE

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MERCURY SWITCH REMOVAL from MOTOR VEHICLES in MAINE

Third Annual Report to the Mercury Products Advisory Committee
Prepared by the Department of Environmental Protection
May 2006

I. Introduction

This is the third annual report on the effectiveness of the mercury switch removal program established under Title 38, section 1665-A of the Maine Revised Statutes Annotated [38 MRSA §1665-A]. A copy of the law is attached as Appendix A.

Section 1665-A requires mercury switches to be removed from motor vehicles before they are crushed and shredded for the scrap metals market. The purpose of the requirement is to reduce mercury emissions from steel mills that use automobile scrap. If the switches are not removed, the mercury is vaporized and released to the air when the scrap metal is melted in furnaces to make new steel.

Most of the mercury in motor vehicles is found in tilt switches used to operate convenience lighting in the engine or luggage compartments. Automakers ended their use of mercury switches in new vehicles beginning with model year 2003, but many older vehicles still have these switches and they remain a potential source of mercury emissions when the vehicles are scrapped.

Under section 1665-A, responsibility for removal and recycling of mercury switches is shared as follows:

- Junkyard operators, auto dismantlers and others in the business of processing end-of-life vehicles (ELVs) must remove the switches and deliver them to a consolidation facility¹;
- Automakers must establish the consolidation facilities, pay a bounty of at least \$3 for each switch delivered to the facilities, and arrange for the switches to be recycled; and
- The Department of Environmental Protection (DEP) must provide guidance on the removal and proper handling of the switches. The DEP also is required to file this annual status report with the Mercury Products Advisory Committee.

II. Number of switches collected

Automakers report that their in-state agent, Wesco Distribution, Inc., took delivery of 1613 switches in 2003 and 3831 switches in 2004. Hazardous waste shipping records filed with the DEP by Wesco shows that it has shipped an additional 4520 switches for recycling in 2005, bringing the total number of switches collected since program inception to 9,964. This represents about 10 to 15% of the switches available for collection as estimated by the Clean Car Campaign² and the Alliance for Automobile Manufacturers (herein "Alliance").³ These

¹ The term "consolidation facility" as used in the Maine Hazardous Waste Management Rules means a facility where mercury switches or other "universal wastes" are collected and temporarily stored while awaiting shipment to a recycling, treatment or disposal facility. See rules of the Department of Environmental Protection, chapter 850(3)(A)(13)(a).

² The Clean Car Campaign is a national campaign promoting the development and sale of motor vehicles that meet a high standard of environmental performance. The campaign is coordinated by environmental organizations including the American Council for an Energy Efficient Economy, Ecology Center, Environmental Defense, Great Lakes United and the Union of Concerned Scientists. The campaign website is: <http://www.cleancarcampaign.org/>

organizations project that between 20,000 and 30,000 mercury switches will be available for collection from motor vehicles junked in Maine in 2005.

Estimated number of mercury switches in motor vehicles dismantled in Maine

	Clean Car Campaign	Alliance of Automobile Manufacturers
2003	34,415	25,701
2004	33,466	24,066
2005	30,724	22,431
2006	29,662	20,839
2007	28,380	19,135
2008	26,986	17,374
2009	25,086	15,553
2010	23,260	13,694
2011	21,414	12,043
2012	19,676	10,531
2013	18,051	9,061
2014	15,401	7,715

The downward trend in number of switches available for collection reflects the fact that the auto industry's usage of mercury switches declined steadily after 1989 and ended altogether with model year 2003. Accordingly, the number of switches available for collection in future years also can be expected to steadily decline as older vehicles disappear from the fleet.

III. Bounty payments

Wesco accepts delivery of mercury switches at facilities in Bangor and Portland. It is the responsibility of those removing the switches to transport them to one of these two locations. Wesco will accept the switches with or without the "vehicle identification number" (VIN)⁴ from the source vehicle, but will not pay the switch bounty unless VINs are provided.

³ The Alliance of Automobile Manufacturers is a trade association of motor vehicle manufacturers including BMW Group, DaimlerChrysler, Ford Motor Company, General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen.

⁴ Automakers began stamping each vehicle with a unique identification number in the 1950's. The practice became standardized in 1981 when the U.S. Department of Transportation required all vehicles to have a 17 character VIN. Each character or digit conveys specific information. The second and third digits specify the manufacturer, e.g. Ford (F), General Motors (G), Honda (H). The VIN can be obtained from vehicle documents (e.g. the registration form or owner's manual) or from the vehicle chassis. The most common chassis location is the driver side interior dash. On some vehicles, the VIN may be stamped on the front of the engine block or frame.

The switch bounty, set at \$1 when section 1665-A was enacted in 2002, was increased effective September 17, 2005 to more fairly compensate ELV handlers for the cost of removing the switches and recording the VIN.⁵ Specifically, section 1665-A(5)(B) was amended as follows:

"[Manufacturers of motor vehicles shall pay] a minimum of ~~\$3~~ \$4 for each mercury switch brought to the consolidation facilities as partial compensation for the removal, storage and transport of the switches, and a minimum of \$4 if the vehicle identification number of the source vehicle must be provided to receive this payment;"⁶

The DEP and automakers agreed that the effect of this language was to require automakers to pay \$4 for switches delivered to Wesco if the VIN of the source vehicle is provided. There was disagreement, however, as to the auto industry's obligation when switches were delivered without VINs. Automakers took the position that no bounty was owed in that case. The DEP interpreted the new language to require automakers to pay at least \$3 per switch whether or not the VIN is provided.

By memo dated September 16, 2005, Maine's ELV handlers were informed of the differing interpretations of the bounty language and of the department's plan to seek clarification from the Legislature. The matter was taken up by the Legislature's Natural Resources Committee in March of this year, ultimately leading to the passage of legislation that repeals section 1665-A(5)(B) and enacts the following in its place:

"[Manufacturers of motor vehicles shall] pay for each mercury switch brought to the consolidation facilities as partial compensation for the removal, storage and transport of the switches a minimum of \$4 if the vehicle identification number of the source vehicle is provided. If the vehicle identification number of the source vehicle is not provided, no payment is required."⁷

⁵ The original version of the switch removal law makes no mention of vehicle identification numbers. This is because, at the time 38 MRSA § 1665-A was enacted in April 2002 and the bounty was set at \$1, the Legislature did not anticipate the need to record VINs. Automakers first suggested they might need VINs at a June 2002 meeting with the department to discuss implementation of the law, and they subsequently included the VIN requirement in the compliance plan submitted by the Alliance of Automobile Manufacturers on September 30, 2002. The submission of this plan is required under the second paragraph of section 1665-A(5), which provides in pertinent part:

"By September 30, 2002, motor vehicle manufacturers shall provide the department with a plan as to how they intend to comply with the requirements of this subsection."

The department responded to the Alliance plan by observing that recording of the VIN "is a not specifically authorized by statute, and will add complexity to the program that may discourage participation on the part of some end-of-life vehicle (ELV) handlers." The Alliance was urged to use a simpler mechanism such as market share to allocate costs, but the department did not conclude that the VIN requirement was contrary to law and, in the end, "reluctantly acquiesced" to a revised compliance plan that included the requirement. A copy of the Alliance plan and related correspondence with DEP is provided in Appendix C of this report.

⁶ See *An Act to Amend the Law on Mercury-added Products*, PL 2005, c. 148, sec. 5. A copy of this bill and the DEP testimony in support of it are attached in Appendix B. The case for raising the bounty is made in the DEP's February 2005 report *Mercury Switch Removal from Motor Vehicles in Maine*, available at: http://www.maine.gov/dep/rwm/mercury/switch_removal_report.htm.

⁷ See *An Act to Amend certain Laws Administered by the Department of Environmental Protection*, PL 2005, c. 561, sec. 9, <http://www.mainelegislature.org/legis/bills/chapters/PUBLIC561-1.asp>.

The legislation further provides that:

“...until 45 days after the effective date of this Act, an automobile manufacturer shall pay for each mercury switch brought to a consolidation facility as partial compensation for the removal, storage and transport of the switch a minimum of \$3 if the vehicle identification number of the source vehicle is not provided as long as the switch is accompanied by signed certification that the switch was removed from a vehicle dismantled in Maine.”⁸

Following the enactment of this latest version of the bounty language, automakers affirmed that they will instruct Wesco to continue to take delivery of mercury switches free of charge provided the delivery is accompanied by signed log sheets certifying that the switches were removed from vehicles dismantled in Maine. For each mercury switch delivered together with the VIN of the source vehicle, Wesco will pay a \$4 bounty. For each mercury switch delivered without a VIN, Wesco will pay a bounty of \$3, but only if the switch is delivered during the 45-day period commencing on the effective date of the new bounty language.⁹ No bounty will be paid on VIN-less switches delivered to Wesco before or after that 45-day period.

IV. Compliance and enforcement

A Conservation Aide was hired in January 2005 to provide compliance assistance on switch removal for a three month period. During that time, the department contacted 267 municipalities, spoke to over 100 municipal code enforcement officers to verify the existence and location of municipally permitted junkyards, and visited 49 facilities that process junked cars. Violations were noted at two locations and referred for enforcement.

The department also has made a concerted effort to ensure that all DEP enforcement staff members are aware of the switch removal law and inspect for compliance when they visit junkyards in response to citizen complaints, whether or not the complaint is specifically related to mercury switches. During calendar year 2005, several facilities were cited for mercury switch violations and other environmental violations in warning letters and corrective action requests.

Future compliance and enforcement efforts will be facilitated by passage of *An Act to Require That Hazardous Waste Be Removed From Junked Vehicles*, PL 2005, c. 247, effective September 17, 2005. The Act amended both the municipally-administered junkyard law and the DEP-administered waste law to require that all fluids, refrigerant, batteries and mercury switches be removed from inoperable vehicles within 180 days of acquisition by a junkyard.

V. Conclusion

Maine's program to remove mercury switches from motor vehicles has enjoyed modest success to date. Nevertheless, we continue to believe it is worth the effort. Thousands of these switches remain in the vehicle fleet, available for capture when the vehicles are junked. The switches are

⁸ *Id.*, sec. 12.

⁹ The enacting legislation—PL 2005, c. 561—will take effect 90 days after the current Legislature adjourns. The Legislature had not adjourned as of May 1, 2006.

relatively easy to remove and, if we fail to remove them, the mercury in all likelihood will be emitted to the environment and contribute to our mercury pollution problem.

Furthermore, as speculated in our prior two status reports on the program, the switch collection numbers reported by Wesco may not be indicative of the overall success of the effort. We continue to believe that most ELV handlers are removing the switches, but many have yet to deliver them to Wesco, either because they have not found it convenient to do so or because they were aware of the DEP plan to seek an increase in the \$1 bounty. The higher bounty took effect in September, but the ongoing conflict over interpretation of the bounty language may have delayed deliveries to Wesco as ELV handlers waited to find out if VINs were needed to qualify for a bounty payment.

APPENDICES

APPENDIX A

Maine law on mercury components in motor vehicles, 38 MRSA §1665-A

APPENDIX B

An Act to Amend the Law of Mercury-added Products, PL 2005, c. 148

APPENDIX C

Automaker plan for compliance with 38 MRSA §1665-A and related correspondence

APPENDIX D

An Act to Require That Hazardous Waste Be Removed From Junked Vehicles, PL 2005, c. 247