STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

March 21, 2005

Senator Scott W. Cowger, Chair
Representative Theodore S. Koffman, Chair
Joint Standing Committee on Natural Resources
122nd Maine State Legislature
Room 214 Cross Office Building
Augusta Maine 04330

Dear Senator Cowger, Representative Koffman and members of the committee:

Enclosed for your information is our annual report on the effectiveness of Maine's program to remove mercury switches from motor vehicles.

The report was submitted to the Mercury Products Advisory Committee [see 38 MRSA §1670] in February. We are providing copies to your committee in anticipation of the committee's upcoming deliberations on LD 185, *An Act Amend the Law on Mercury-added Products.*

The report is relevant to those deliberations because it explains why the department seeks an increase in the mercury switch bounty as proposed in section 5 of LD 185. Under current law, automakers must pay $1 per switch to compensate auto dismantlers for the cost of removing them. We recommend that the bounty be increased to at least $3 as explained on pages 3-6 of the enclosed report.

I hope you find the report informative and useful. Please feel free to call me at 287- 2812 if I can be of further assistance.

Sincerely,

Dawn Gallagher
Commissioner

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MERCURY SWITCH REMOVAL from MOTOR VEHICLES in MAINE

Second annual report to the Mercury Products Advisory Committee

Prepared by the Maine Department of Environmental Protection
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I. Introduction and program overview

This is the second annual report on the effectiveness of the source separation program established under Title 38, section 1665-A, of the Maine Revised Statutes Annotated [38 MRSA §1665-A; see Appendix A]. This law requires mercury switches and mercury headlamps to be removed from motor vehicles before they are crushed and shredded for the scrap metals market. The purpose of this source separation 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 into the environment when the scrap metal is melted in furnaces to make new steel.

Over 99% of the mercury in motor vehicles is found in switches. Most of these are tilt switches used to operate convenience lights under the vehicle hood or trunk lid. Automakers ended their use of these switches in new vehicles beginning with model year 2003, but mercury switches in older U.S. motor vehicles currently are a significant source of mercury emissions to the environment and will remain so unless the switches are removed and recycled when the vehicles are scrapped.

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

- Automobile dismantlers and others who handle end-of-life vehicles (ELVs) are required to remove the switches, safely store them and deliver them to a consolidation facility[1] within 3 years of removal;
- Automakers are required to establish consolidation facilities, pay $1 for each mercury switch delivered to the facilities, and ship the switches to a recycling facility; and
- The Department of Environmental Protection (DEP) is required to provide information and training to facilitate the removal and recycling of the mercury components.

The DEP also is required to file this annual status report with the Mercury Products Advisory Committee (MPAC).[2] The report is due January 1 each year and must address the following:

- Whether the $1 switch bounty should be adjusted to increase the number of switches brought to consolidation facilities;
- Whether other motor vehicle components should be included in the program; and
- Whether the program should be terminated and, if so, when.

The factual and policy basis of the program, its legislative history and initial implementation are thoroughly discussed in the DEP *Plan to Reduce Mercury Releases from Motor Vehicles in Maine* (January 2002) and in our first annual report to the MPAC. Copies of these documents can be obtained from the DEP. See cover page for contact information.

[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] See 38 MRSA § 1665-A, sub-§ 9 and § 1670. The 13-member Mercury Products Advisory Committee advises the DEP and Legislature on actions to prevent and reduce environmental releases of mercury from consumer products.

II. Number of mercury switches collected

Automakers have hired Wesco Distribution, Inc. to collect and consolidate the mercury switches once they are removed. It is the responsibility of those removing the switches to deliver the switches to Wesco. The switches may be delivered to Wesco at its facilities in Bangor and Portland during regular business hours. Wesco will accept delivery of switches with or without the Vehicle Identification Numbers (VINs) from the source vehicles, but automakers will not pay the $1 per switch bounty unless VINs are provided.

Wesco reports that it accepted two deliveries totaling 804 switches in 2004. This brings the total number of mercury switches delivered to Wesco during the first two years of the program to 2,417. These switches originate from just four of several hundred Maine facilities that dismantle and scrap vehicles.

In last year's report, we speculated that these low numbers are not evidence of wide non-compliance with the switch removal law, but rather reflect the fact that most ELV handlers have not accumulated sufficient numbers of switches to warrant driving to Bangor or Portland to turn them in. We remain confident, in light our extensive outreach effort, that ELV handlers are aware of the law and are removing mercury switches. Our initial site visits have confirmed this.

To assess participation, the Natural Resources Council of Maine (NRCM) conducted a phone survey between September 13 and October 11, 2004. The survey results (see Appendix C) indicate that 80% of those in the business of dismantling or "parting-out" autos are removing mercury switches, and that over 14,479 switches currently are on hand at these facilities awaiting delivery to Wesco. Combined with the 2,417 switches already delivered to Wesco, this brings the total number of switches collected during the first 22 months of the program to about 17,000.

Assuming each switch contains one gram of mercury, the program has captured about 37 pounds of mercury so far. This is significant but only about 30% of what was available for collection based on estimates provided by the Alliance of Automobile Manufacturers[3] and the Clean Car Campaign.[4]

III. Strategies to improve switch collection

The DEP plans to improve the mercury switch capture rate by continuing our efforts to promote awareness of the program through outreach and compliance assistance; by taking enforcement action where warranted; and by increasing the bounty that automakers must pay for each switch delivered to Wesco.

[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] The Clean Car Campaign is a national campaign coordinated by state, regional and national environmental organizations promoting the development and sale of motor vehicles that meet a high standard of environmental performance.

A. Outreach and compliance assistance

During the first two years of the program, the DEP has focused its efforts on education and outreach—on identifying ELV handlers, telling them about the new law and providing guidance on how to comply. We held regional workshops, produced and distributed an instructional video and guidance manual, and revised the Maine Hazardous Waste Management Rules to establish streamlined "universal waste" requirements that make it easy to store, transport and recycle the mercury switches. ELV businesses also have been given log sheets and a lidded storage bucket to facilitate compliance with the rules.

In November and December 2003, a company called Market Decisions conducted a mail survey to assess the effectiveness of the DEP outreach efforts. The survey results were not available in time for inclusion in our first report on the program last year, but are attached here as Appendix D. Eighty-four percent of the 277 survey respondents said they were aware of the switch removal program and most said they had heard of the program either by attending a DEP workshop or reading about it in a DEP newsletter. Seventy-six percent said that DEP assistance, including the written guidance manual, training sessions and secure storage buckets, encouraged their participation.

The DEP will continue its efforts to keep ELV handlers informed about the program through a newsletter, press releases and informational mailings as appropriate. [Examples of these materials and press coverage of the program are included in Appendix G.] We also have hired a Conservation Aide to visit ELV facilities and provide on-site compliance assistance, including transport of switches to Wesco.

B. Enforcement

Automakers have recommended that the DEP make frequent visits to auto salvage yards to reinforce the importance of switch removal. Yard visits are critical, according to automakers, because they demonstrate that the program is a priority for the DEP and that it is serious about enforcement. Automakers believe that a strong enforcement posture on the part of the DEP could eliminate the need for a bounty. In their view, the desire to avoid fines would provide the incentive necessary to assure program participation.

The DEP agrees site visits are important. We also recognize the need to move beyond compliance assistance and take enforcement action against anyone who still is crushing cars with the mercury switches intact. In anticipation of a stronger focus on enforcement, the DEP has proposed legislation to:

1. Authorize municipal code enforcement officers to enforce the switch removal requirement;
2. Rewrite the switch removal requirement under 38 MRSA §1665-A(3) to address concerns about the enforceability of current language; and
3. Define the term "scrap recycling facility" as used in that section.

A copy of proposed legislation—*LD 185: An Act to Amend the Law on Mercury-added Products*—appears in Appendix B.

To date, we have yet to substantiate violations of the switch removal requirement, either during site visits connected with our outreach effort or during investigations of citizen complaints lodged against auto salvage yards. Most complaints involve alleged mishandling of gasoline, oil and other fluids rather than mercury switches, although DEP enforcement staff now routinely checks for compliance with the switch removal law when investigating any complaint.

The lack of documented violations reflects the difficulty of enforcing the law by strictly policing the hundreds of ELV facilities in Maine.[5] One alternative may be to narrow our enforcement focus to car crushing operations. Only about 15 to 20 of the ELV facilities in Maine are known to have a crusher. Most vehicle crushing is done by mobile crusher crews that travel from facility to facility. The DEP held a training session on mercury switch removal for crusher operators in June 2003, but the job of monitoring for compliance would be greatly enhanced if DEP had advance notice of where and when car crushing will take place.

C. Raising the bounty to compensate ELV handlers for switch removal costs

The law [38 MRSA §1665-A(5)(B)] currently requires automakers to pay "a minimum of $1 for each mercury switch …as partial compensation for the removal, storage and transport of the switches." We now are convinced, based on feedback from dismantlers and salvage yard operators, that the $1 bounty is not enough even as partial compensation.

While we agree with automakers on the need to take enforcement action where warranted, we do not agree with their suggestion that a strong enforcement posture would substitute for a bounty, or that a bounty is inappropriate as a matter of public policy. We continue to believe that the bounty, if set at an appropriate amount, will make switch removal less onerous for Maine businesses that scrap vehicles and will increase their buy-in to the removal effort.

Nor is there any question as to the legality of the bounty. The U.S. District Court of Maine has upheld the bounty against a constitutional challenge by the Alliance of Automobile Manufacturers. In her decision the dismissing the Alliance's suit, Judge Margaret Kravchuk observed:

> "[I]t is not excessively burdensome to impose on those who placed mercury switches in interstate commerce a reasonable financial obligation to help ensure that the encapsulated mercury does not cause harm to public health or the environment. Although the Alliance concedes that the recovery and consolidation initiatives are laudable, they essentially

[5] At the outset of the program, the DEP compiled a mail list of over 700 municipally-licensed automobile graveyards and automobile recycling businesses. It has become clear, however, that as many as half of these facilities are not in the business of dismantling or otherwise processing ELVs. The department is refining the facility list in response to feedback from program mailings, information gathered through site visits and contact with municipal officials.

> believe that fairness requires the burden to be carried by Maine taxpayers and the so-called ELV industry. That the Legislature chose to encourage dismantler compliance with carrots…is perfectly reasonable given the large number of dismantlers distributed throughout the state. Whatever fairness may require, the [Commerce Clause of the U.S. Constitution] does not preclude the bounty scheme per se. Finally, the Alliance ultimately fails to make any factual showing in support of its conception of fairness. What is offered is that the manufacturers estimate the cost of compliance to amount to roughly $200,000 in start up costs and project annual costs of $120,000. In my view, this simple showing falls short of demonstrating a clearly excessive burden in relation to the local benefit of recovering mercury switches…"

The court's full decision is included in Appendix E.

The fundamental issue is how to fairly allocate the costs of removing the switches. In the absence of a bounty, these costs fall entirely to ELV handlers. Certainly they are in the best position to physically perform this task, and the law requires that they do so. However, their ability to recover mercury collection costs through the sale of used parts is limited. The ELV industry exists because many used auto parts have resale value; mercury switches do not. Mercury switches, in fact, have negative value because they must be handled as hazardous waste.

Automakers suggest that this economic disincentive to removal and recycling of the switches can be overcome through enforcement. The Maine Legislature instead chose to require automakers to pay a modest bounty as a means of partially compensating ELV handlers for costs they otherwise cannot recover. The fact that the Legislature accomplished this purpose by shifting some financial responsibility to automakers is consistent with the principle of product stewardship. Under this principle, manufacturers increasingly are being called upon to help with the waste management challenges they have created due to the volume or toxicity of their products (e.g., thermostats and electronics).

The DEP now is proposing to raise the bounty to more fairly compensate ELV handlers for their efforts. In advising the Legislature that a $1 bounty likely would be adequate, we under-estimated removal costs and did not anticipate the need to copy down the VIN of each vehicle.

Automaker insistence on having the VIN as a prerequisite to paying the bounty has largely removed any financial incentive that the current $1 bounty may have provided. Recording the VIN could easily double the time required to remove and handle the switches, thereby increasing the overall cost of removal. It is the most frequent complaint made about the program by those responsible for removing switches. Many dismantlers and salvage yard operators have said they would forego the bounty if it means they can avoid writing down VINs.

Even if automakers were to drop the VIN requirement, it is now clear that $1 does not adequately compensate ELV handlers for their trouble. In previously suggesting that a dollar would suffice, we observed that most switches could be removed in a minute or less, and we

calculated the removal costs as ranging from 38¢ to $l.71 depending on labor rates. These removal times are accurate but there is more to the job than simply removing the mercury switch from its assembly.

A March 2004 report on a switch removal pilot project initiated by the New Jersey Department of Environmental Protection shows that, although it generally takes less than a minute to remove the switches, it takes another 2 to 3 minutes to inspect the hood and trunk of each vehicle to determine if a switch assembly is present. The New Jersey report suggests that total removal time may be closer to 4 minutes per vehicle when all aspects of the job are considered, including vehicle inspection, switch removal and handling, maintaining a written log, and transporting the switches for recycling. The report estimates the total cost of removing and managing mercury switches to be $3 per switch even without recording VINs. See Appendix F for copy of the New Jersey report.

On October 25, 2004, the New Jersey General Assembly, by a vote of 70 to 3, passed a bill (A2482, 211th Legislature) that would require vehicle recyclers to remove mercury switches prior to delivery of ELVs to a scrap recycling facility and require automakers to pay a minimum of $2 per switch in partial compensation to the recyclers. An identical bill (S1292, 211th Legislature) was unanimously approved by the Budget and Appropriations Committee of the New Jersey Senate on February 7, 2005, and is expected to be acted on by the full Senate soon. No other state has enacted a switch removal requirement, although several states, including Colorado, Minnesota, New Hampshire, Pennsylvania and Wisconsin have voluntary programs. Some of these voluntary programs include financial incentives, although in no case are we aware of payments exceeding $1 per switch.

The mercury products bill[6] attached as Appendix B would, among other things, raise Maine's bounty on automotive mercury switches to at least $3, and to a minimum of $4 if automakers continue to require VINs as a prerequisite to paying the bounty. The DEP met with automakers in October to discuss this proposal. Our understanding from that meeting and from remarks made by an industry representative at the MPAC meeting of December 15, 2004, is that automakers are amenable to underwriting some program costs, including the distribution of promotional material and the cost of recycling the mercury switches once they have been removed, but they remain opposed to making direct payments to ELV handlers.

IV. Other mercury-added vehicle components

No information has been brought to the department's attention in 2004 to suggest that mercury-added automobile components other than switches and HID headlamps should be targeted for collection. The industry has reported that the only other mercury-added components currently used in motor vehicles are backlighting for instrumentation panels and flat panel displays for entertainment and navigation systems. The sale of new motor vehicles in Maine containing these miscellaneous components is estimated to place a total of about 2 ounces of mercury in commerce each year. This is not an amount that would appear to warrant a targeted collection effort.

[6] The bill has been introduced to the 122nd Maine Legislature as LD 185.

The DEP has provided ELV handlers with information on how to recycle HID lamps but has not attempted to gather information on how many are actually recycled by ELV handlers. The number is assumed to be low due to the fact that these lamps are expensive options and have value as used parts. Any HID lamps that are not broken when they arrive at an ELV facility presumably are placed in stock for resale.

Although very few HID headlamps appear to be recycled, the fact that mercury headlamps are targeted by Maine's source separation law has provided an opportunity to educate ELV handlers about the need to recycle all mercury-added lamps, including the 4-foot fluorescent tubes commonly used for shop lighting.

V. Should the mercury switch removal program be terminated?

The following table sets forth estimates of the numbers of mercury switches expected to be available for collection from ELVs in Maine over the next 10 years.

Table 1: Estimated number of mercury switches in end-of-life vehicles

	Clean Car Campaign	Alliance of Automobile Manufacturers
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 steady downward trend in numbers reflects the fact that vehicles assembled in the late 80s and early 90s—the peak years of mercury switch usage—already have reached Maine's junkyards. The number of mercury switches installed by automakers declined steadily during the 1990s and ended altogether with model year 2003.[7] 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.

Eventually, the number of switches available for collection will no longer warrant a statewide collection effort and the program can be terminated. However, it would be premature to end the

[7] To ensure this practice ends, the Legislature specifically banned the use of mercury switches in new motor vehicles sold in Maine after January 1, 2003 unless an exemption is obtained from the Commissioner of Environmental Protection. See 38 MRSA § 1665-A, sub-§ 1. One such exemption has been granted. In a decision dated August 19, 2003, the commissioner granted an exemption allowing motor home manufacturers to install gas ovens that use mercury flame sensors to shut off gas flow when the oven pilot light is out.

program now given that hundreds of thousands of pre-2003 vehicles remain on the road. The Alliance of Automobile Manufacturers reports that the national scrap rate for vehicles is 6.6%, which would suggest an average vehicle life of 15 years. If so, 1995 vehicles—a model year in which automakers were still installing relatively high numbers of mercury switches—will not arrive at the crusher until the year 2010.

VI. Conclusions

- DEP efforts to promote the switch removal program have been successful in that most ELV handlers are aware of the program and are removing switches. About 17,000 switches have been collected by Maine ELV handlers since January 1, 2003, when the program began. This represents roughly 30% of the switches thought to be available for capture during that time frame.
- Automakers have met their obligation to establish switch consolidation facilities and pay a $1 bounty on each switch delivered to the facilities. As a condition of paying the bounty, automakers require ELV handlers to submit the Vehicle Identification Number (VIN) of each source vehicle.
- The bounty was established to partially compensate ELV handlers for costs incurred to removing the mercury switches and transport them to a consolidation facility. In advising the Legislature to set the bounty amount at $1 per switch, the DEP considered only the time required to physically remove the switch from hood and trunk convenience light assemblies, a task that generally takes less than one minute. The time required to inspect each vehicle for mercury switch assemblies, and to properly manage the switches after they are removed, was not factored into cost estimates, nor was it anticipated that it would be necessary to record VINs.
- The bounty should be raised to more fairly compensate ELV handlers for the costs of removing and handling mercury switches. Raising the bounty will make switch removal less onerous for Maine businesses that scrap vehicles and will increase their buy-in to the removal effort.
- Although automakers no longer are putting mercury switches in motor vehicles, older vehicles in Maine are estimated to collectively contain over 200,000 mercury switches. The mercury in these switches will be released to the environment unless the switches are removed when the vehicles are scrapped.

VII. Recommendation

The DEP recommends that the mercury switch removal program be continued. We further recommend that 38 MRSA § 1665-A(5)(B) be amended to require automakers to pay a minimum of $3 for each mercury switch delivered to Wesco and a minimum of $4 if the VIN of each source vehicle must be provided to receive this payment.

APPENDICES

APPENDIX A

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

APPENDIX B

Proposed amendments to the law on mercury components in motor vehicles

APPENDIX C

Report on telephone survey of auto recyclers by the Natural Resources Council of Maine

APPENDIX D

Report on mail survey of auto recyclers by DEP consultant Market Decisions

APPENDIX E

U.S. District Court decision: *Alliance of Automobile Manufacturers v. Martha Kirkpatrick*

APPENDIX F

Report on New Jersey pilot project to collect mercury switches from motor vehicles

APPENDIX G

DEP informational mailings to ELV handlers

Press clippings

APPENDIX A

MERCURY COMPONENTS IN MOTOR VEHICLES
Maine Revised Statutes Annotated
Title 38, chapter 16-B, section 1665-A

§1665-A. Motor vehicle components

Notwithstanding sections 1663 and 1664, this section applies to a mercury-added product that is motor vehicle component.

1. Prohibition on sale of a new motor vehicle with mercury switches. A person may not sell a motor vehicle manufactured on or after January 1, 2003 if it contains a mercury switch. A motor vehicle manufacturer may apply to the commissioner for an exemption from this prohibition. The commissioner may grant an exemption upon finding that:

A. The manufacturer has provided assurance that a system exists for the proper removal and recycling of the mercury switch; and

B. Either of the following applies:

(1) Use of the mercury switch is necessary to protect public health or safety; or

(2) There are no technically feasible alternatives to the mercury switch at comparable cost.

2. Prohibition on replacement mercury light switches. Effective January 1, 2003, a person may not sell or distribute a mercury light switch for installation in a motor vehicle.

3. Removal of certain mercury components when vehicle use ends. Effective January 1, 2003, a person may not send a motor vehicle to a scrap recycling facility without first removing any mercury switch or mercury headlamp that is a component of the motor vehicle, except that a scrap recycling facility may agree to accept a motor vehicle that has not been flattened, crushed or baled, knowing it contains a mercury switch or a mercury headlamp, in which case the scrap recycling facility is responsible for removing that component. Upon removal, the components must be collected, stored, transported and otherwise handled in accordance with the universal waste rules adopted by the board under subsection 8.

4. Voluntary removal of mercury light switches prior to end of vehicle use. A motor vehicle dealer or any person engaged in motor vehicle repair or maintenance may participate in the mercury light switch removal and collection effort pursuant to subsection 5, as long as the person notifies the department before commencing removal and receives such training as may be required by the department. Any person who removes a mercury light switch from a motor vehicle before the motor vehicle is removed from service shall affix an official sticker to the motor vehicle to indicate that the switch has been removed. The stickers may be obtained from the department and must be affixed to the doorpost or other location specified by the department. A person may not install a mercury light switch into a motor vehicle to which the sticker is affixed.

5. Motor vehicle manufacturer responsibility. Manufacturers of motor vehicles sold in this State that contain mercury switches or mercury headlamps shall, individually or collectively, do the following:

A. By January 1, 2003, establish and maintain consolidation facilities geographically located to serve all areas of the State to which mercury switches removed pursuant to this section may be transported by the persons performing the removal. A consolidation facility may not be a facility that is licensed in the State as a new or used automobile dealership;

B. Pay a minimum of $1 for each mercury switch brought to the consolidation facilities as partial compensation for the removal, storage and transport of the switches;

C. Ensure that mercury switches redeemed at the consolidation centers are managed in accordance with the universal waste rules adopted by the board under subsection 8; and

D. Provide the department and persons who remove motor vehicle components under this section with information, training and other technical assistance required to facilitate removal and recycling of the components in accordance with the universal waste rules adopted by the board under subsection 8, including, but not limited to, information identifying the motor vehicle models that contain or may contain mercury switches or mercury headlamps.

The goal of this collection and recycling effort is to collect and recycle at least 90 pounds of mercury per year from mercury switches removed from motor vehicles. 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.

In complying with the requirements of this subsection, manufacturers of motor vehicles shall establish a system that does not require a person who removes a mercury switch to segregate switches separately according to each manufacturer of motor vehicles from which the switches are removed.

6. Department responsibility. The department shall:

A. Assist those subject to the source separation requirements of this section by providing training on the universal waste rules adopted by the board under subsection 8 and by taking other steps as deemed appropriate to provide for the safe removal and proper handling of motor vehicle components;

B. Design and distribute stickers required under subsection 4; and

C. Make available to the public information concerning services to remove mercury light switches in motor vehicles.

7. Labeling. Effective July 15, 2002, the labeling requirements of section 1662 apply to motor vehicles components. In approving an alternative compliance plan for labeling motor vehicles under section 1662, the commissioner shall require a motor vehicle manufacturer to apply a doorpost label listing the mercury added products that may be components in the motor vehicle. The commissioner may not require a manufacturer to affix a label to each mercury-added component.

8. Rulemaking. The board shall revise the universal waste rules adopted pursuant to section 1319-O, subsection 1, paragraph F as necessary to establish standards by which mercury switches in motor vehicles may be handled as universal waste.

9. Reporting. Before January 1, 2003, and annually thereafter, motor vehicle manufacturers doing business in the State shall report to the joint standing committee of the Legislature having jurisdiction over natural resource matters on any fee or other charge collected on the sale of new motor vehicles for the purpose of paying the cost of carrying out the manufacturer responsibilities under subsection 5. The report must specify the amount of the fee or charge collected and how it was determined. Before July 1, 2004 and annually thereafter, motor vehicle manufacturers shall report in writing to the department on the results of the source separation required under this section. The report must include, at a minimum, the number of mercury switches removed and recycled from motor vehicles during the previous calendar year; the estimated total amount of mercury contained in the components; and any recommendations to improve the future collection and recycling of motor vehicle components. Before January 1, 2004, and annually thereafter, the department shall report to the Mercury Products Advisory Committee on the effectiveness of the source separation required under this section, whether the partial reimbursement payment under subsection 5, paragraph B should be adjusted to increase the number of switches brought to consolidation facilities, whether other motor vehicle components should be added to the source separation efforts and whether the program should be terminated and, if so, when.

APPENDIX B

LD 185: An Act to Amend the Law on Mercury-Added Products

Be it enacted by the People of the State of Maine as follows:

Sec. 1 30-A MRSA §4452, sub-§5, ¶J, as enacted by PL 1995, c. 58, §1, is amended to read:

J. Laws pertaining to junkyards, automobile graveyards and automobile recycling businesses and local ordinances regarding junkyards, automobile graveyards and automobile recycling businesses, pursuant to chapter 183, subchapter I and Title 38, section 1665-A, subsection 3.

Sec. 2. 38 MRSA §1661, sub-§6, is enacted to read:

6. Scrap recycling facility. "Scrap recycling facility" means a fixed location where machinery and equipment are used to process and manufacture scrap metal into prepared grades of scrap and whose principal product is scrap iron, scrap steel or nonferrous metallic scrap for sale for remelting purposes.

Sec. 3. 38 MRSA §1662, sub-§1, as enacted by PL 1999, c. 779, §2, is amended to read:

1. Labeling required for certain products. Effective January 1, 2002, a manufacturer may not sell at retail in this State or to a retailer in this State, and a retailer may not knowingly sell, a mercury-added product unless the item is labeled pursuant to this subsection. The label must clearly inform the purchaser or consumer that mercury is present in the item and that the item may not be disposed of or placed in a waste stream destined for disposal until the mercury is removed and reused, recycled or otherwise managed to ensure that it does not become part of solid waste or wastewater. Manufacturers shall affix to mercury-added products labels that conform to the requirements of this subsection.

The board shall adopt rules to establish standards for affixing labels to the product and product package. The rules must strive for consistency with labeling programs in other states and provide for approval of alternative compliance plans by the department. Rules adopted pursuant to this section are routine technical rules as defined in Title 5, chapter 375, subchapter II-A.

This subsection applies ~~does not apply~~ to mercury-added lamps effective January 1, 2006.

Sec. 4. 38 MRSA §1665-A, sub-§3, as enacted by PL 2001, c. 656, §3, is repealed and the following is enacted in its place:

3. Removal of certain mercury components when vehicle use ends. A person may not flatten, crush or bale a motor vehicle for the purpose of sending it to a scrap recycling facility, or arrange for a motor vehicle to be flattened, baled or crushed for that purpose, without first removing all mercury switches and mercury headlamps, except that a scrap recycling facility may agree to accept a motor vehicle that has not been flattened, crushed or baled. If a scrap recycling facility accepts such a motor vehicle, the scrap recycling facility is responsible for removing the mercury switches and mercury headlamps before the vehicle is flattened, crushed, baled or shredded. Upon removal, the components must be collected, stored, transported and otherwise handled in accordance with the universal waste rules adopted by the board under subsection 8.

Sec. 5. 38 MRSA §1665-A, sub-§5, ¶B, as enacted by PL 2001, c. 656, §3, is amended to read:

B. Pay a minimum of ~~$1~~ $3 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;

Summary

This bill:

1. Authorizes municipal code enforcement offices to enforce the prohibition on crushing of motor vehicles without first removing any mercury switches;

2. Defines the term "scrap recycling facility" as used in the law governing removal of mercury switches from motor vehicles;

3. Prohibits the sale of mercury-added lamps after January 1, 2006 unless, as currently is the case for other mercury-added products, the lamps have a label indicating that they contain mercury;

4. Clarifies the prohibition on scrapping motor vehicles without first removing any mercury switches.

5. Increases the amount that automobile manufacturers must pay in compensation for the costs of removing mercury switches from motor vehicles.

Assessing Participation in Maine's Mercury Auto Switch Recovery Program: Results of Survey of Auto Recyclers

Survey Conducted and Report Prepared by:
The Natural Resources Council of Maine
December, 2004

Survey of Maine Auto Recyclers

Summary of Results

- Between September 13 and October 11, 2004, the Natural Resources Council of Maine (NRCM) conducted a phone survey of 115 facilities that said they have conducted business that is regulated under Maine's Mercury Auto Switch Law.
- Of 100 facilities that reported dismantling or "parting-out" autos, 80% said that they are currently collecting mercury switches and have switches on site.
- These facilities reported that they had 14,479 mercury-containing switches on hand. In addition, 2,417 pellets had already been turned in to consolidation centers; therefore, we have now positively identified 16,896 switches collected under Maine's auto switch program.
- Because a substantial number of end-of-life vehicle (ELV) facilities were not reached or did not appear on the state list, it is reasonable to assume that the actual numbers of switches collected could substantially exceed the total discovered through the survey.
- 52% of survey respondents said that recording the Vehicle Identification Number (VIN) is overly burdensome. Burdensomeness of recording the VIN was the single most frequently volunteered response to the initial, unprompted request for opinions on how to improve the program.
- 70% of survey respondents felt that the bounty should be increased.

Background

In 2002, Maine enacted the nation's first law to give automakers responsibility to recover and properly manage mercury-added switches from end-of-life vehicles. This report provides results of a survey done to assess participation in the program and to gather additional data on the recovery of mercury switches.

Mercury is a dangerous neurotoxin. Even at low levels it can impair infant and child development and may harm adults' cardiovascular and immune systems. In the environment, mercury pollution threatens wildlife populations and builds up in game fish that people consume. Maine has some of the highest mercury pollution levels in the nation and, as a result, the State's Bureau of Health has been forced to advise people to strictly limit consumption of fish caught in our inland waters.

Most American–made vehicles manufactured before 2003, and some older European models, have capsules of mercury installed as part of gravity-controlled light switches in trunks and hoods as well as in some anti-lock brake systems. Typically, there is about 1 gram of mercury per light switch and up to 3 grams per anti-lock brake system. This

mercury is released during the smelting process as part of vehicle recycling. It is estimated that some 18,000 pounds of mercury was released last year into the air over the United States from ELV smelting. Much of this mercury settles into the nation's waterways.

The Maine auto switch law, 38 MRSA § 1665-A, is designed to reduce this source of mercury pollution. The law requires that automakers pay a bounty of at least $1 for each mercury switch brought to a consolidation center by the scrap yard owners that dismantle junked vehicles. The automakers are also required to set up the centers and provide for shipping of the switches to recycling centers.

The Alliance of Automobile Manufacturers (AAM), a trade association of nine car and light truck manufacturers (including BMW Group, DaimlerChrysler, Ford Motor Co., General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen) has set up a program to comply with the law.[1] Under the program, which has been in effect since January 1, 2003:

- Wesco Distribution (Wesco) collects mercury switches at locations in Portland and Bangor.

- Wesco processes the switches for recycling and provide the person delivering the switches with a voucher.

- All the mercury auto switches delivered to Wesco must be accompanied by a log sheet showing the Vehicle Identification Number (VIN) for each vehicle from which switches were removed.

- The party delivering switches certifies that the switches were taken from vehicles dismantled in-state.

- Wesco forwards the signed log sheets to the participating automakers who apportion costs among themselves.

- Once this is done, Wesco is cleared to issue a check to the auto scrapper in the amount of one dollar for each mercury switch from a vehicle made by a participating manufacturer.

Other states, including New Jersey, Pennsylvania and Minnesota, are considering adopting statutes modeled after the Maine law. Opponents and skeptics claim that the program in Maine has not demonstrably produced impressive switch collection rates. Initial figures reported to Maine's Department of Environmental Protection (DEP) as of November 2003 indicated that Wesco had received a total of 1,613 mercury switches from four facilities in the first nine months of the program. However, under the law, an auto recycler is able to store the recovered switches for up to three years or until they accumulate 4,000 switches. When this survey project began, it was not known the extent

[1] AAM also filed a lawsuit to overturn the law. In February 2004, a federal district court dismissed the case and entered a judgment for the state on all counts.

to which Maine auto recyclers were accumulating the switches on site as opposed to failing to pull switches.

This survey of in-state auto scrappers was implemented to:
(1) determine the degree of participation in the program;
(2) estimate the number of switches that have been pulled from vehicles but not redeemed at Wesco;
(3) encourage car scrappers who pull significant numbers of switches to redeem them more frequently; and
(4) encourage full program participation among car scrappers.

Data Collection Methodology

The Objective: To locate and call as many Maine car recyclers as possible and ask them a uniform set of questions about the auto switch recovery program.

Procedures: A single phone surveyor placed all of the calls. The surveyor relied primarily on a list of auto junkyards and recyclers compiled by the Maine DEP from calls to municipal code enforcement officers. This list was supplemented with new information when discovered. The surveyor initiated each call using the same script (see below). In many instances, those contacted would volunteer information and opinions on the switch recovery and the State's program without waiting for the next question. In some instances, volunteering of information started right after the contact learned of the purpose of the call. The surveyor did not discourage a free flow of suggestions and comments on the subject of the auto switch program, but would return to the script to cover unanswered questions.

Several factors affected the survey and data collection and some auto recyclers were not reached. The DEP list of 760 facilities proved to be both over-inclusive and incomplete. As discussed below, many of the facilities listed reported that their businesses do not dismantle or "part out" vehicles. In addition, insufficient contact information was available for 244 of the listed facilities. Of the facilities for which phone numbers were provided on the list, 18 were either wrong numbers or not in service. There are also 26 entries on the DEP list that are for municipalities that are identified on the list as having "no licensed junkyard."

The surveyor attempted to contact 478 names listed as licensed ELV recyclers for which there was useful contact information. Of those, 222 facilities identified on the list could not be reached despite repeated attempts. Some contact was made with 256 facilities. Of the 256 facilities contacted, only 115 said that they conduct the kind of business that is regulated under Maine's Mercury Auto Switch Law. Those that said that the law did not pertain to their business offered various explanations. For example, 32 of the businesses said that they are only body shops; 17 are auto repair shops; 6 work on farm equipment; and 10 stated that they deal in parts for antique cars and other vehicles that were manufactured before the advent of mercury switches. Seventeen facilities stated that they

are out of business or going out of the business. Five of the listed facilities simply refused to participate in the survey.

On the other hand, there are reasons to expect that there are more auto dismantlers removing switches than were identified through the survey. Though contact information was in many instances unavailable, a number of sources affirmed that the businesses listed continue to operate. Not only did DEP have records, albeit incomplete records, of more recyclers, but many of those that were contacted mentioned local competitors for whom contact information was lacking. It would be difficult to estimate the total number of operating auto recyclers that were not reached, or the number of mercury auto switches these businesses may have pulled and have on hand, but it is likely that both are significant numbers. It is conceivable that the number of unidentified switches "in the pipeline" may exceed the total discovered through this survey.

The survey's first question generated some contradictory responses. When asked: "Do you dismantle vehicles at your shop?" the initial response was often negative. On further discussion, however, 100 facilities acknowledged that they dismantle or "part-out" ELVs. Of these 100 facilities, 93 reported that they are currently removing mercury switches but only 80 said that they currently had switches on site. In response to the second part of question: "How many cars per month does your facility dismantle?" some respondents gave annual estimates while others stated that they simply could not answer the question. According to some in the latter group, there are too many variables within the industry such as the price of scrap metals and the supply and demand for second-hand auto parts that create extreme fluctuations in their business. In the end, the number of ELVs that are being dismantled in Maine each month could not be determined through this survey.

The Phone Survey Script

1. Do you dismantle [or "part-out"] vehicles at your shop? If "yes," approximately how many vehicles per month?

2. Are you currently pulling the mercury switches from vehicles that come to your yard for dismantling?

3. [If the Answer to Question #2 is "No"] We would like to find out what it might take to get your participation. Please tell me, if you will, why you do not pull the mercury switches and what changes should be made to the program.

4. [If the Answer to Question #2 is "Yes"] Have you turned in any switches to either one of the Wesco locations in Bangor or Portland? How many do you currently have on hand?

5. Can you please give me your opinion on how to make this program better if you think that changes are needed?

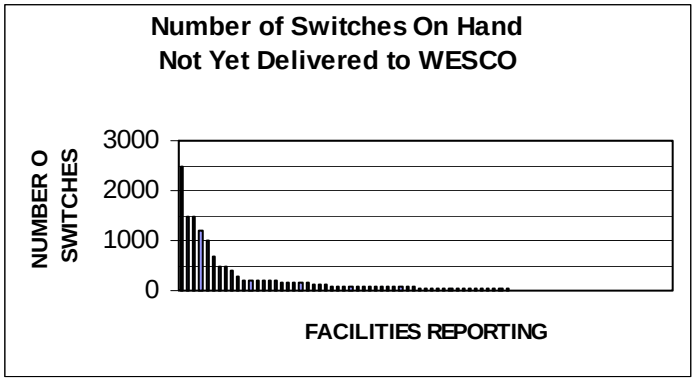
6. Do you think the $1 bounty is a good idea? Is $1.00 adequate? Is recording the VIN numbers of the cars reasonable or burdensome? Are the drop-off locations at Wesco in Bangor and Portland convenient enough? Have you run into problems pulling switches from certain vehicles? Do you have other issues to raise, or suggestions?

7. Do I have your approval to release your information to Maine DEP or other agencies?

Survey Findings

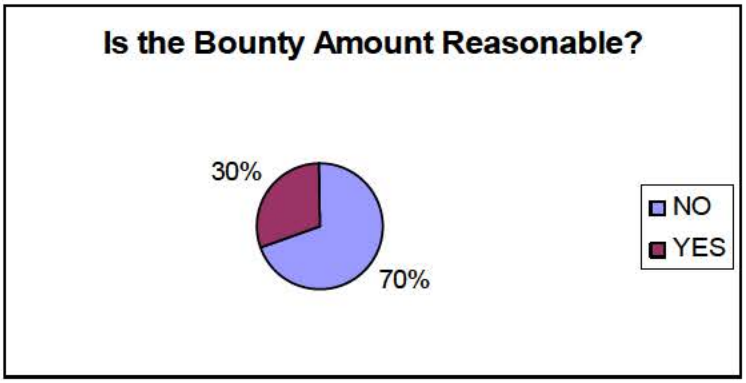
Key Findings

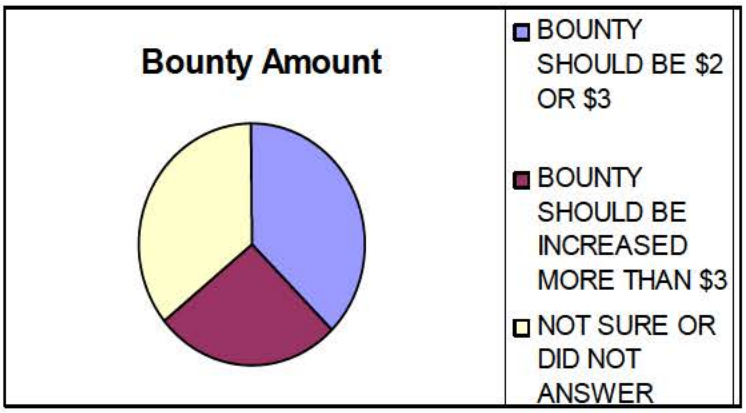
- Of the 100 facilities that reported dismantling or "parting-out" autos, 80% said that they are collecting mercury switches.
- The self-reported count of mercury-containing switches on hand totaled 14,479. This is in addition to the 2,417 pellets that were reported to have been turned in to the two Wesco locations before August 2004. Therefore, the total number of switches now reported to have been collected under Maine's auto switch program is 16,896.



- Based on information gathered in connection with this survey, it is reasonable to assume that a substantial number of participating ELV facilities were not reached. Therefore actual numbers of switches collected could be much higher.

- 70% of survey respondents said that the bounty should be increased.





- 52% of survey respondents said that recording the VIN number is overly burdensome. Moreover, the burdensomeness of recording the VIN number was the single most frequently volunteered unprompted response for opinions on how to improve the program.

Survey Results

This section tallies responses to the survey questions from the 115 facilities contacted that said that they do work that is regulated under the Mercury Auto Switch Law (38 MRSA section 1665-A).

1. Do you dismantle vehicles at your shop?

Yes 100 No 15

2. Are you currently pulling the mercury switches from vehicles that come to your yard for dismantling?

Yes 93 No 22

3. Have you turned in any switches to either one of the Wesco locations in Bangor or Portland?

Yes 3 No 112

4. How many do you currently have on hand?
(note: see graph for switch count breakdown)

80 facilities had switches on hand (totaling 14,479)
(note: data available outside of survey included for one yard)

36 facilities reported none

5. Can you please give me your opinion on how to make this program better if you think that changes are needed?
(note: see comments for a sample of actual responses)

82 respondents gave comments

33 respondents gave no comments

6. Do you think the $1 bounty is a good idea?

Yes 85 No or not sure 30

7. Is $1.00 adequate?

Yes 35 No 80

8. Is recording the vehicle identification number of the cars reasonable or burdensome?

Reasonable 37

Burdensome 60

Not Sure 18

9. Are the drop-off locations at Wesco in Bangor and Portland convenient enough?

Yes 66 No or not sure 49

10. Do I have your approval to release your information to Maine DEP or other agencies?

Yes 102 No 13

Comments from Respondents

Variations in the way that each respondent answered questions or volunteered information made it difficult to gather unprompted assessments and suggestions from each on how to improve the program. Below are representative examples of responses and comments offered by respondents during the survey.

Sample of Unprompted Comments

- Recording the vehicle identification number is the worst part of the procedure. At most, auto scrappers should merely be required to record the make.

- Elaborations on the VIN number issue:
  - Difficult keeping paperwork on hand in the yard;
  - Difficult writing with hands that are always greasy, often cold;
  - VIN numbers are often hard to read;
  - VIN numbers missing in fire-damaged cars.

- Automakers should be required to provide more accurate information on the exact location of switches in each make and model of automobile.

- There is a problem with cars being shipped to Canada where environmental requirements are more lax and there is no requirement to remove switches.

- Maine DEP offices should be drop-off sites.

- Glass mercury switches were found in dome roof lights.

- Bounty should be $3-5, but it would help if it was even just $2. (When he went to hire someone to pull switches he had to pay $400 to collect 200 switches.)

- DEP should require that switches be turned in once a year.

- Recording the vehicle identification number is the worst part of the procedure. At most, they should merely be required to record the make.

- Unaware of the law, but requested information.

- Refused to answer survey questions.

- Worried that other scrappers are slipping through the cracks.

- Motivated by bounty and asked for information to begin program.

- “There are going to be no changes around here.” (Not participating)

Sample of Comments in Response to Questions

- Program designed with little input from small yards but the State passed responsibility onto the little guy.

- Some of the larger yards could act as collection agents. Small yard owners are fearful of the program. Do away with the paperwork. Let the State fight with manufacturers to get reimbursed.

- Has asked for bucket and information but has yet to receive them.

- Do away with recording vehicle identification number requirement and bounty should be $2.50.

- I am turning in my license.

- Good program.

- There is a lack of enforcement against the little guys.

- Had cars crushed, crusher pulled switches.

- Dismantlers guide needs to be improved.

- Do away with the vehicle identification number requirement.

- Observed that, as a rule, vehicles with power windows most likely had switches.

- Not collecting switches, opposes government regulations.

- DEP offices should be drop off location.

- DEP should have program to pick up on site.

- Had cars crushed. Crusher popped hoods, and looked under car for switches.

Actions Taken in Response to Survey

Natural Resources Council of Maine

- NRCM intervened on behalf of an auto recycler who had been turned away at one of the Wesco locations because he had not recorded vehicle identification numbers. NRCM contacted DEP to request that DEP review and clarify the protocol with Wesco employees. After receiving the go-ahead, NRCM picked up and turned in the container of switches with a log recording 1,152 switches.

- NRCM also suggested and DEP agreed to send a memo to ELV facilities to clarify the requirement that the facilities maintain a running count of the removed switches regardless of whether they seek to qualify to collect the bounty.

- During the course of the survey requested information was faxed or mailed to eight ELV facilities.

- New contact information was found by NRCM for six ELV facilities.

- There were 28 requests for information or supplies by ELV facilities during the course of the survey that will be passed on to DEP for follow-up.

- On hearing of the preliminary results of the survey, DEP started planning to do a collection run to pick up switches being held at ELV facilities.

Maine Department of Environmental Protection

- DEP wrote letter to ELV facilities explaining that no VIN numbers were required to recycle mercury-containing switches provided that the ELV facilities did not expect to receive the $1.00 bounty provided by the auto manufacturers.

- A new mercury switch log sheet was developed for use by those ELV facilities that choose not to track VIN numbers.

- DEP contacted the automakers and Wesco to clarify how the program should work when switches without VIN numbers are brought in.

- A meeting will be scheduled between NRCM and DEP to discuss the findings of the survey.

End-of-Life Vehicle Recycling Facilities

- ELV facilities will maintain a running count of removed switches.

- The surveyor contacted representatives at 21 facilities, which had not been collecting switches, who requested information to begin to participate in the program.

- All of the ELV facilities contacted now have a heightened awareness of the program.

Survey conducted by Neil Ward.
Report prepared by Neil Ward and Jon Hinck
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207-622-3101
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A Circle of Poison: Mercury Pollution from Cars

Where is the Mercury in Cars?

Mercury can also be found in HID headlights & some dashboard lights

87% of the mercury in cars is found in convenience switches like those under the hood and trunk

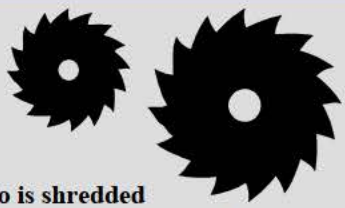
12% is in ABS brake systems

Crushing

There are about 1,500 pounds of mercury in Maine's cars

Cars are crushed at auto scrap facilities and sent to be shredded

Shredding



When an auto is shredded
*7% of the cars mercury is released directly to the air,
*53% is in the non-metal *fluff waste* sent to landfills where it escapes into the air,
*40% is in the baled scrap metal sent to smelters for steel recycling.

Smelting

Smelters that recycle scrap metal from cars are the fourth largest source of mercury air emissions in the U.S.

Polluting

Air borne mercury travels back to Maine with prevailing winds, where mercury fallout enters the environment.

Sources: Maine DEP, A Plan to Reduce Mercury Releases from Motor Vehicles in Maine, January 2002
Ecology Center, Great Lakes United, University of Tennessee Center for Clean Products and Clean Technologies, Toxics in Vehicles: Mercury, January 2001

Research Report

Maine Department of Environmental Protection

Mercury Switch Removal Program Survey

Date: January 2004

Prepared for:

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Prepared by:

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Patrick Madden, Research Analyst
Nathaniel Mildner, Research Intern

Methodology

The survey instrument used for the survey was developed by Market Decisions in consultation with DEP staff. The primary objective of the research was to understand awareness of the program and materials, as well as satisfaction with the program and materials. This would provide information to adjust or improve the program.

The DEP mailed the survey package, which included an introductory letter, a separate printed survey and a return mail envelope with a tracking number. The mailing list was composed of junkyards known to the DEP and the returned surveys came directly to market Decisions.

Market Decisions provided a list of tracking numbers on returned surveys to DEP, who sent a second mailing was made to those who had not responded to the initial mailing. Sending a second survey is a standard practice used to increase survey response.

In total, 716 surveys were mailed and 277 were returned a competed survey for a 39% response rate. This is a typical response rate for this kind of survey.

Researchers hope to see a 50-70% response rate as these levels provide more assurance of representativeness of responses. However, these response rates also require more aggressive (and costly) methods such as multiple mailings or following up with a phone call to non- respondents.

With 39% responding we should assume that the findings are subject to a self-selection bias. That is, those that participated may be different than those who did not respond. It is possible, for example that that the respondents to the survey were more likely to be participants in the program. Those who did not respond may not wish to say that they were not participating. Some may not have responded because the survey did not pertain to them or because they *thought* that the survey did not pertain to them.

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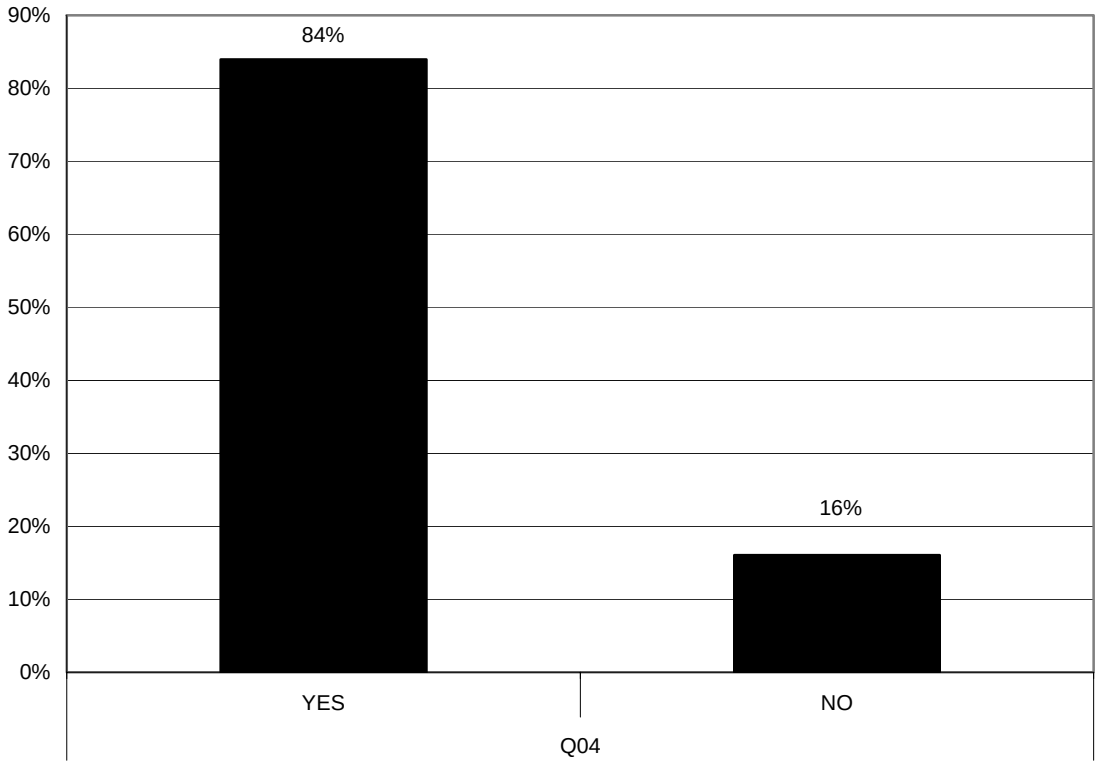
Key Findings

- 84% of businesses surveyed were aware of a program sponsored by the Maine Department of Environmental Protection (DEP) to assist businesses in removing mercury switches from scrapped motor vehicles.
- 77% of respondents currently participate in the Department of Environmental Protection's program to remove mercury switches and recycle them.
- Respondents most commonly heard of this program through attending a DEP workshop (45%) or by reading about it in a DEP newsletter (41%).
- The majority of respondents were aware of the free materials available from the DEP to assist in the removal of mercury switches. The secure storage pail for mercury switches was the most commonly known (76%), and the laminated switch removal instructions were the least commonly known (64%).
- Respondents who had received the free materials from the DEP tended to find them very useful, however, many respondents had not received them.
- 76% said that DEP assistance, including manuals, training, laminated cards and buckets, encouraged their participation.
- 61% stated that the time required to remove switches had no effect on their participation.
- The need to provide a VIN to receive the bounty for each switch was the most common factor that discouraged respondents' participation in the program (40%).
- The most important factor encouraging participation was the respondents' personal interest in protecting rivers and streams from mercury pollution (88%).

Detailed Findings

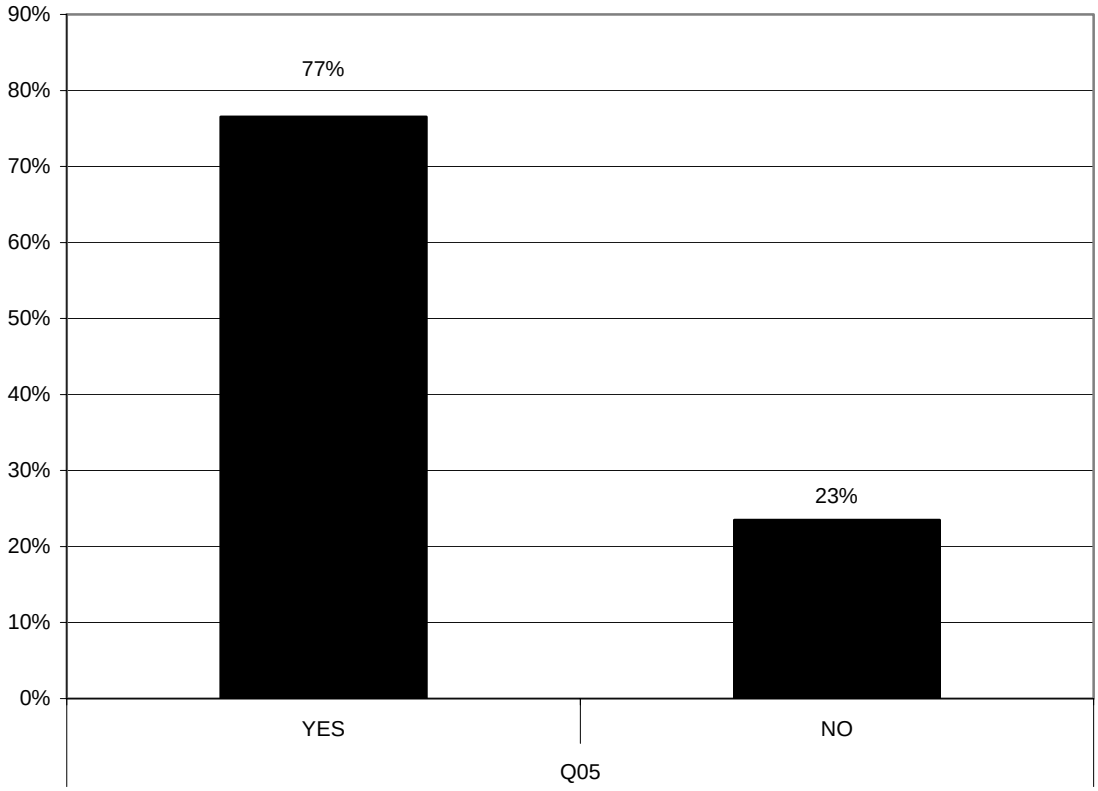
84% of businesses surveyed were aware of a program sponsored by the Maine Department of Environmental Protection to assist businesses in removing mercury switches from scrapped motor vehicles.

4. Have you heard of a program sponsored by the Maine Department of Environmental Protection (DEP) to assist businesses in removing mercury switches from scrapped motor vehicles?



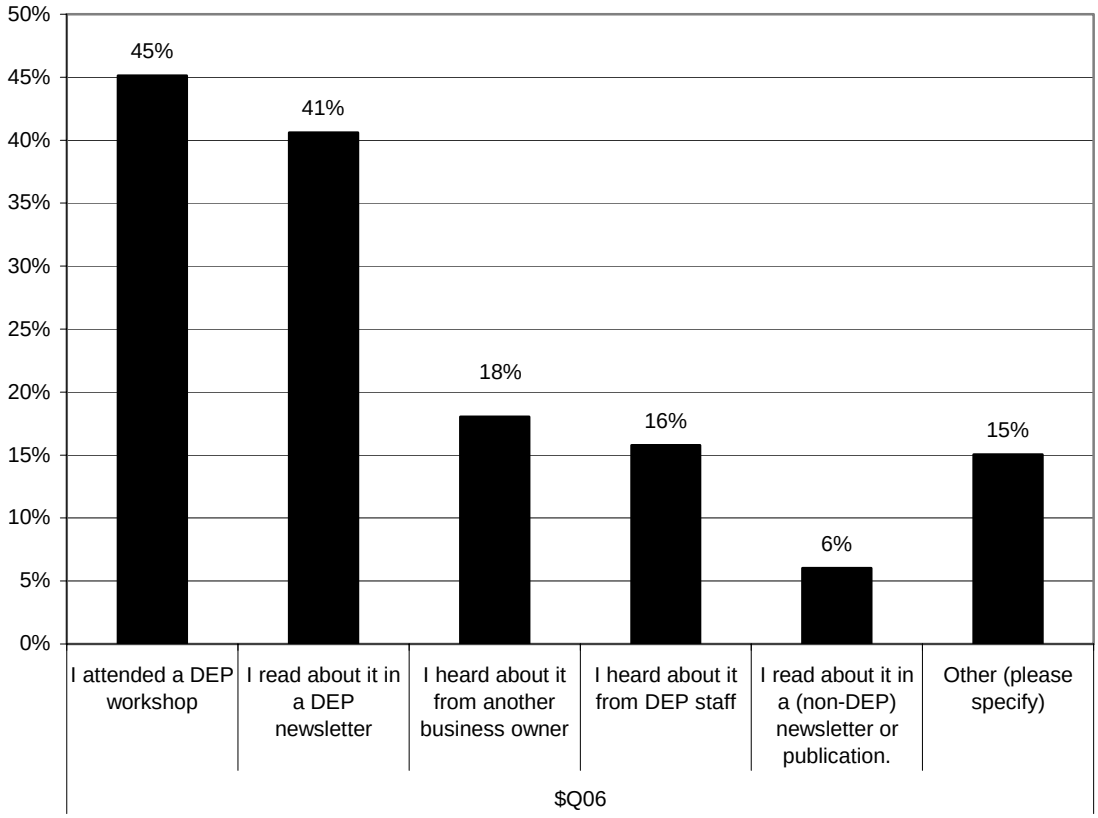
77% of respondents currently participate in the DEP's program to remove mercury switches and recycle them.

5. Do you currently participate in the Department of Environmental Protection's program to remove mercury switches and recycle them?

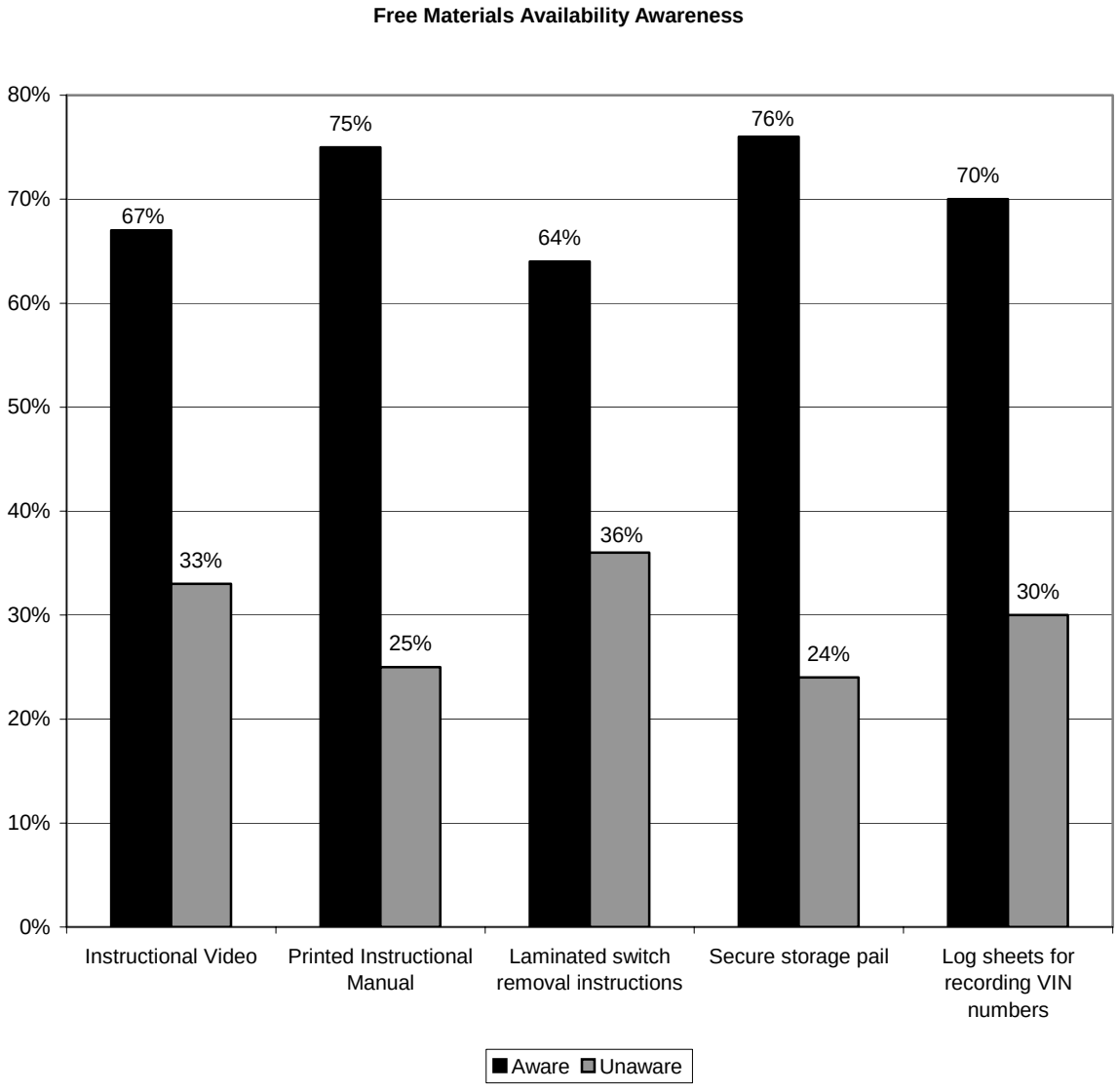


Respondents most commonly heard of this program through attending a DEP workshop (45%) or by reading about it in a DEP newsletter (41%).

6. How did you hear of this program?



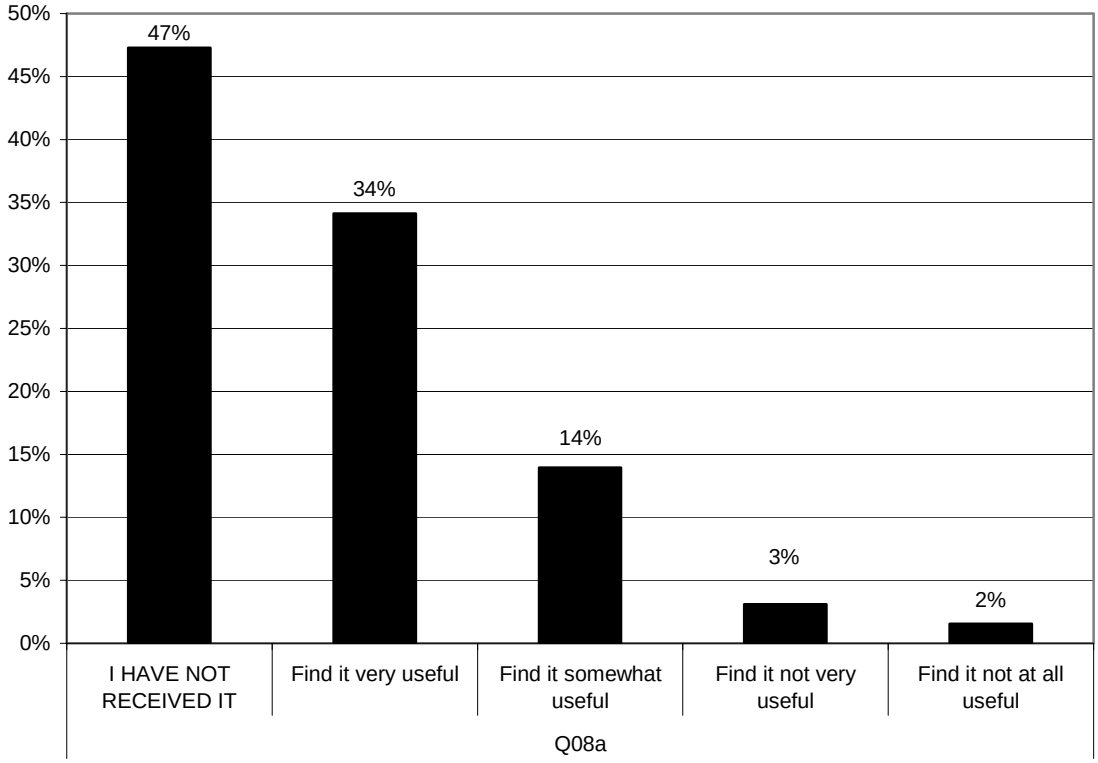
The majority of respondents were aware of the free materials available from the DEP to assist in the removal of mercury switches. The secure storage pail for mercury switches was the most commonly known (76%), and the laminated switch removal instructions were the least commonly known (64%).



Respondents who had received the free materials from the DEP tended to find them very useful, however, many respondents had not received them.

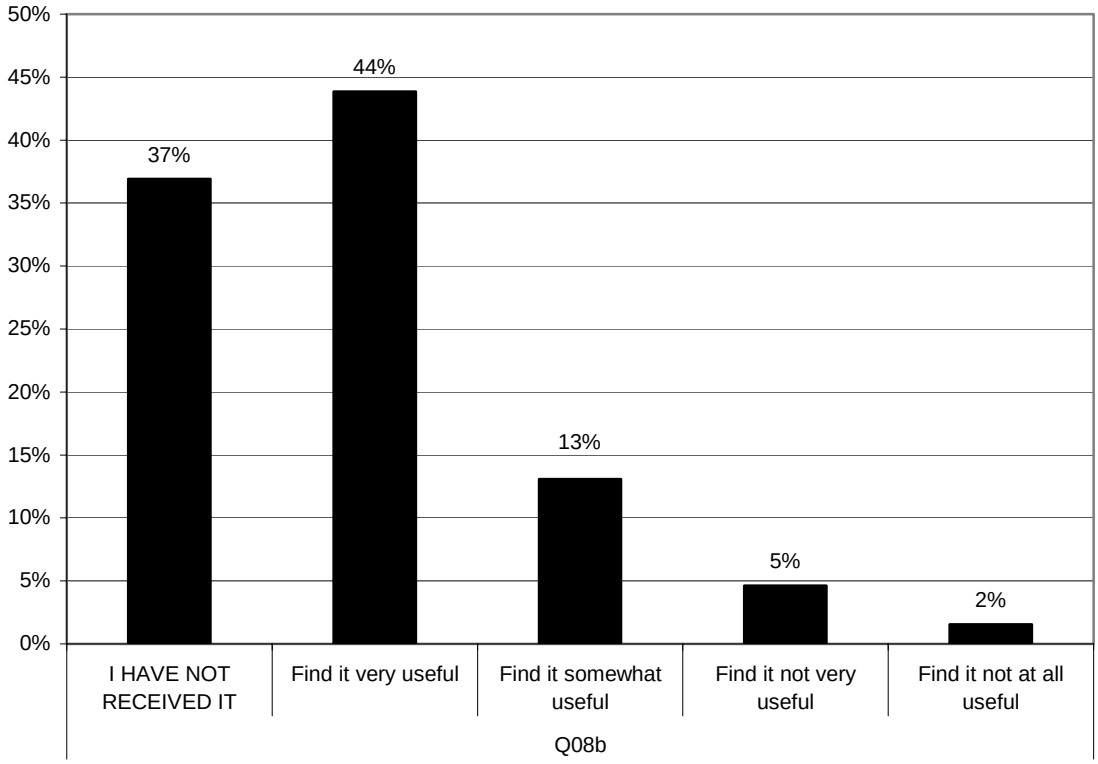
Instructional Video

8. The Department of Environmental Protection would l ke to know how useful you find the free materials it provides to assist in the removal of mercury switches.
INSTRUCTIONAL VIDEO



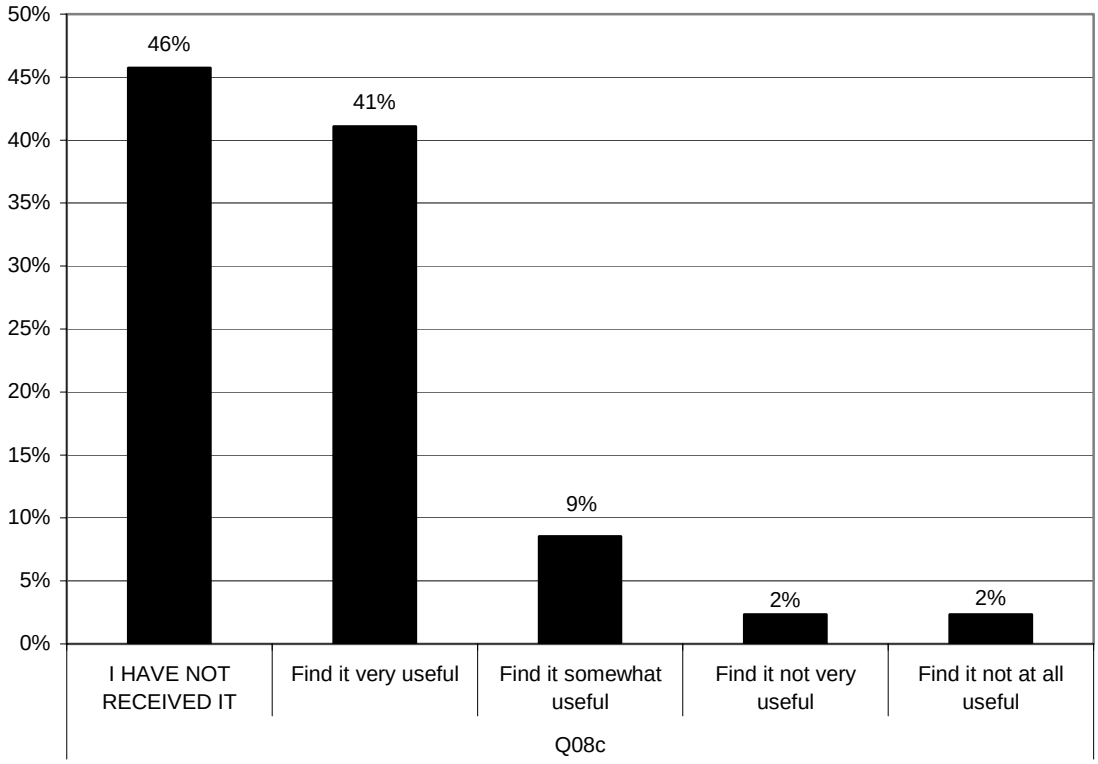
Printed Instruction Manual

8. The Department of Environmental Protection would l ke to know how useful you find the free materials it provides to assist in the removal of mercury switches.
PRINTED INSTRUCTION MANUAL



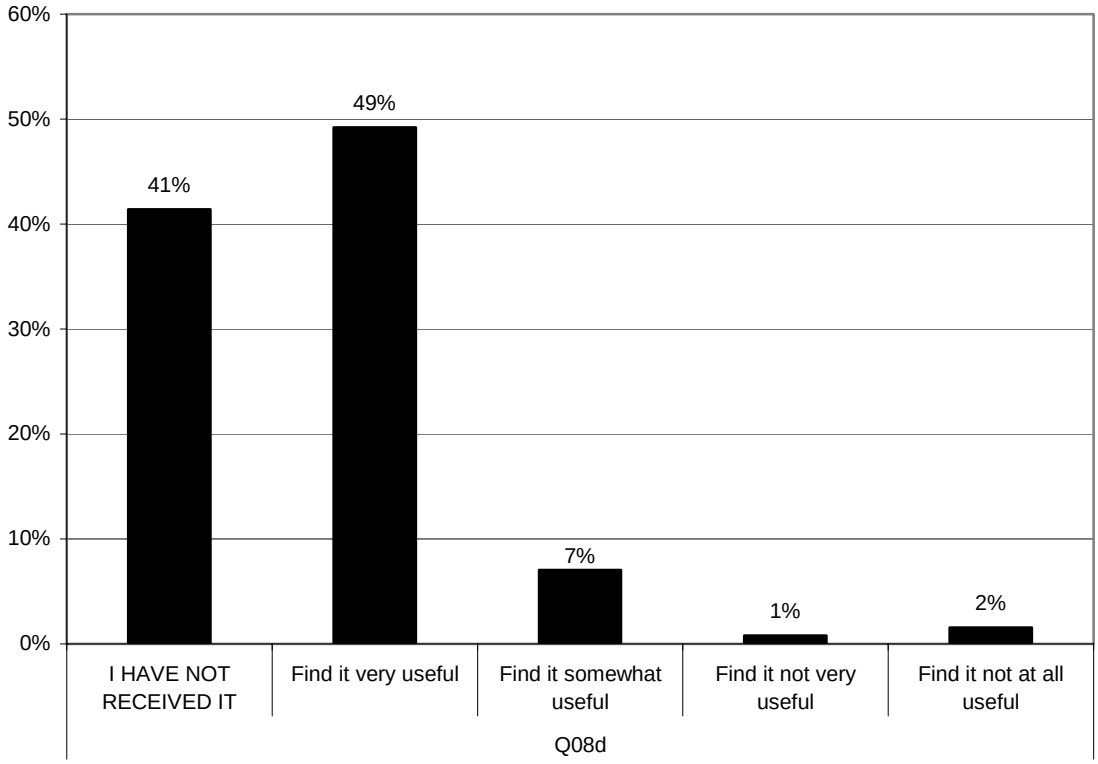
Laminated Switch Removal Instructions

8. The Department of Environmental Protection would l ke to know how useful you find the free materials it provides to assist in the removal of mercury switches.
LAMINATED SWITCH REMOVAL INSTRUCTIONS FOR USE BY MECHANICS



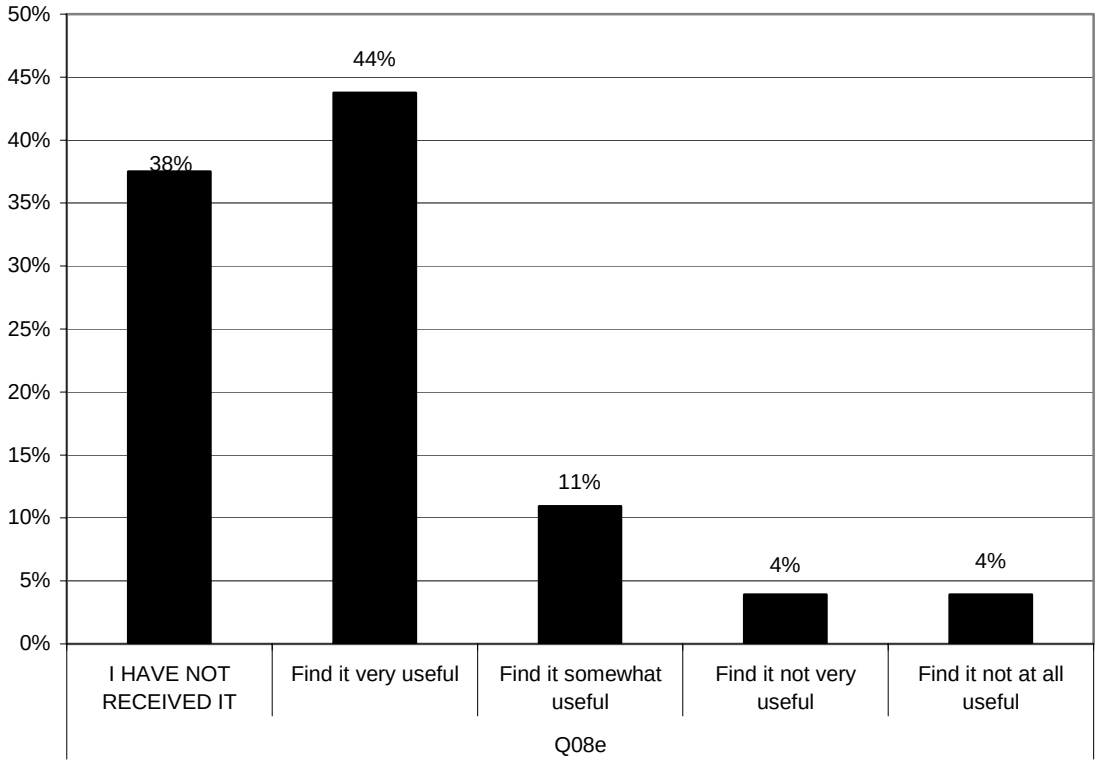
Secure Storage Pail for Mercury Switches

8. The Department of Environmental Protection would l ke to know how useful you find the free materials it provides to assist in the removal of mercury switches.
SECURE STORAGE PAIL FOR MERCURY SWITCHES



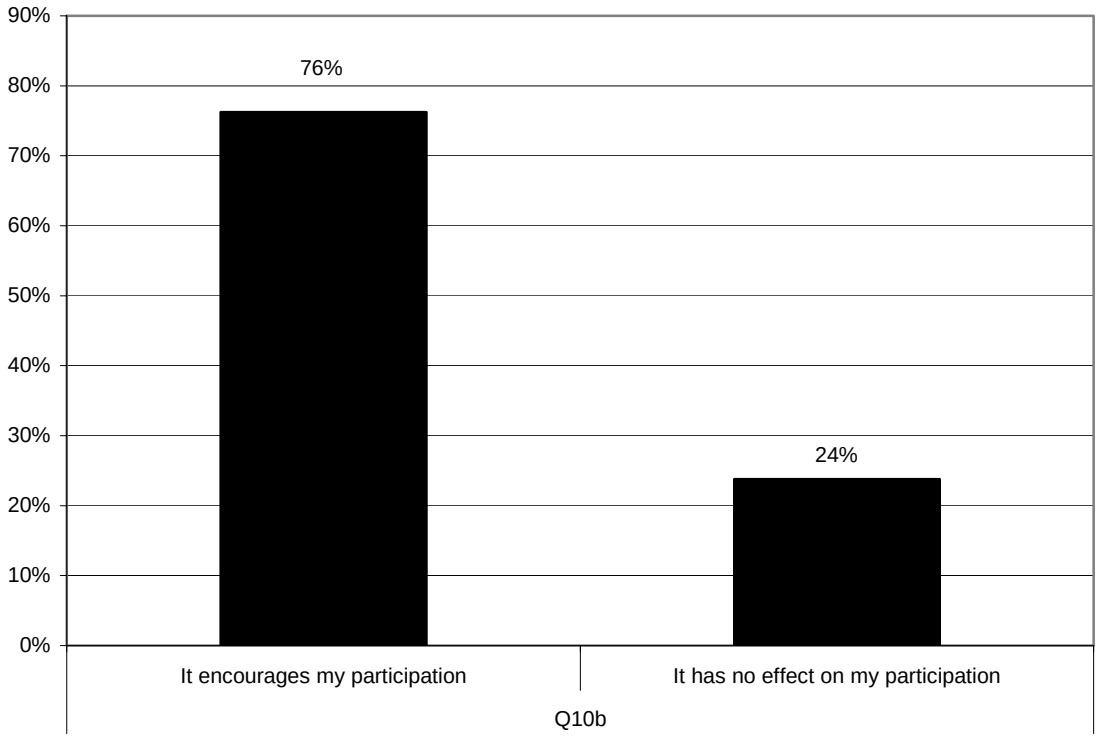
Log Sheets for Recording VIN numbers

8. The Department of Environmental Protection would l ke to know how useful you find the free materials it provides to assist in the removal of mercury switches.
LOG SHEETS FOR RECORDING VIN NUMBERS



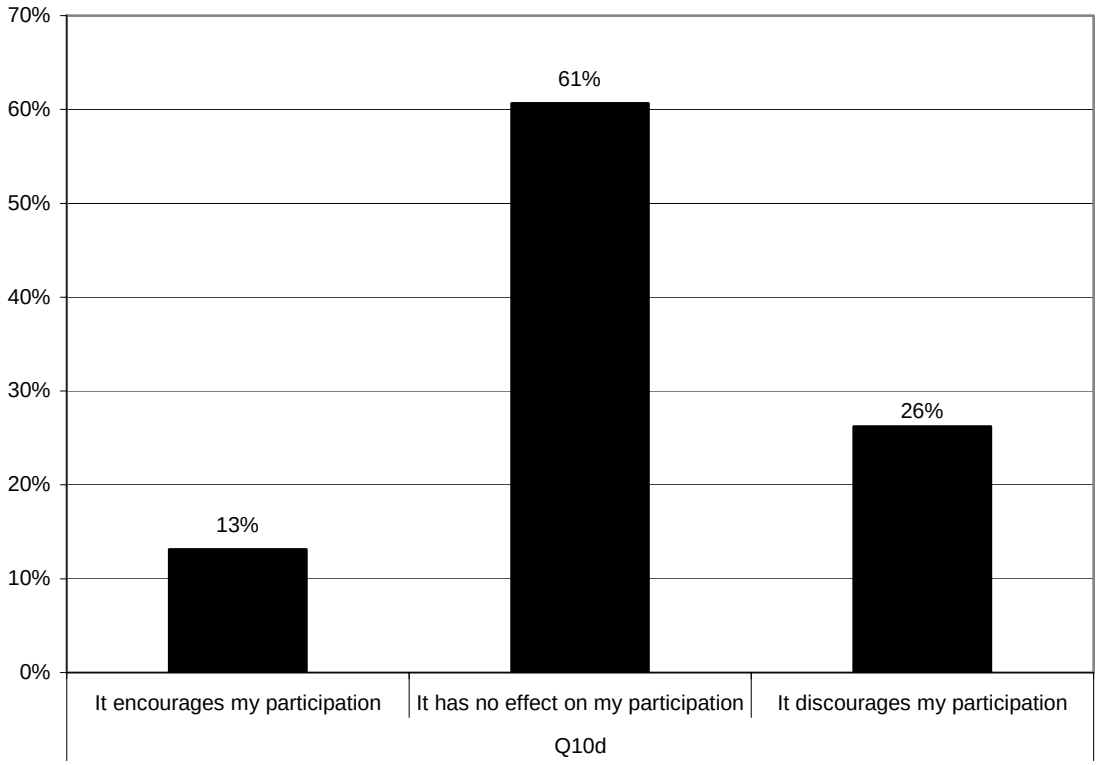
76% said that DEP assistance, including manuals, training, laminated cards, and buckets, encouraged their participation.

10. Please tell us how each of the following effects your participation in the mercury switch recycling program.
DEP ASSISTANCE INCLUDING MANUALS, TRAINING, LAMINATED CARDS AND BUCKETS



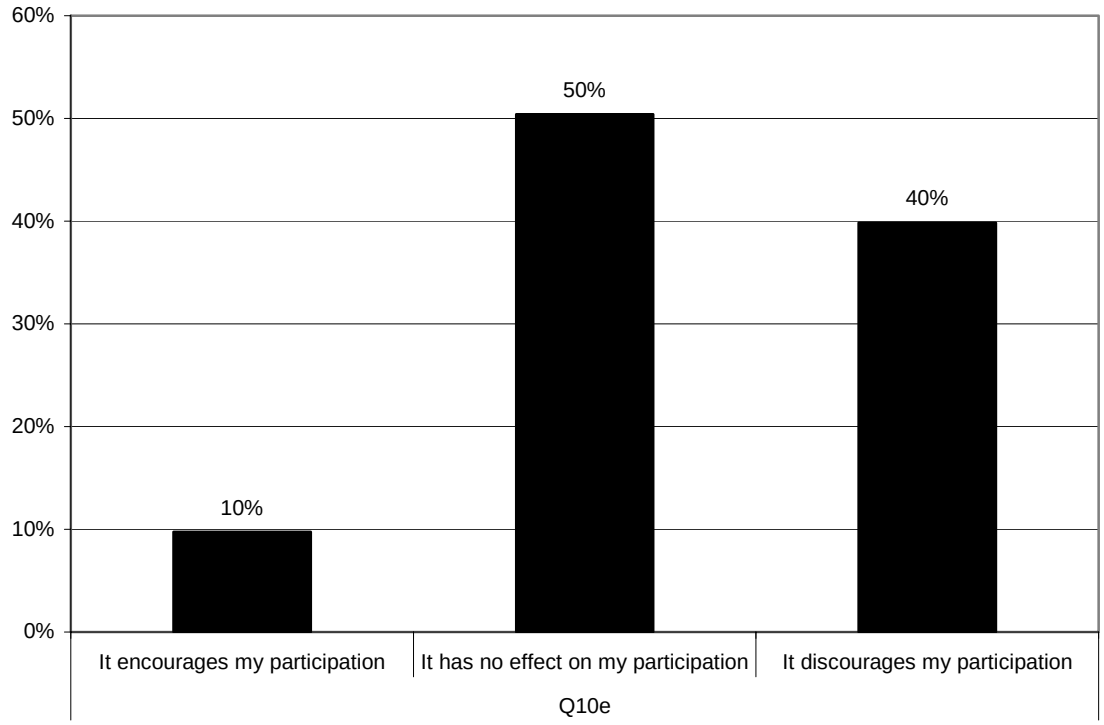
61% stated that the time required to remove switches had no effect on their participation.

10. Please tell us how each of the following effects your participation in the mercury switch recycling program.
THE TIME REQUIRED TO REMOVE SWITCHES



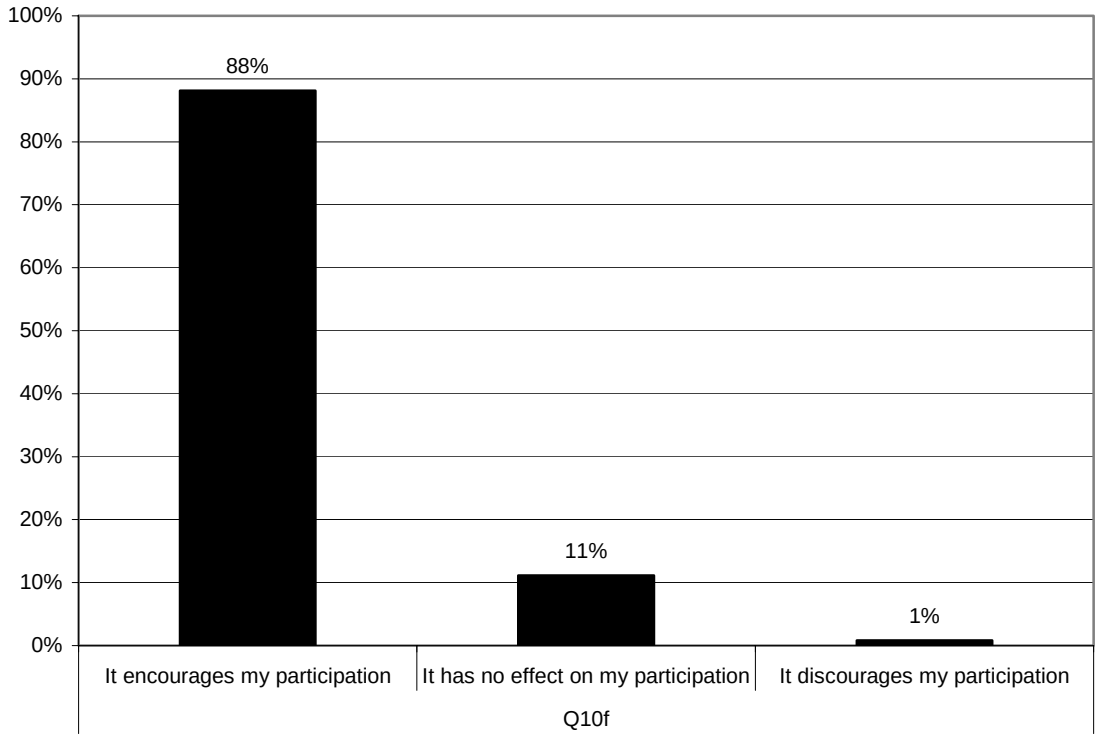
The need to provide a VIN to receive the bounty for each switch was the most common factor that discouraged respondents' participation in the program (40%).

10. Please tell us how each of the following effects your participation in the mercury switch recycling program.
THE NEED TO PROVIDE A VIN (VEHICLE IDENTIFICATION NUMBER) TO RECEIVE THE BOUNTY FOR EACH SWITCH



The most important factor encouraging participation was the respondents' personal interest in protecting rivers and streams from mercury pollution (88%).

10. Please tell us how each of the following effects your participation in the mercury switch recycling program.
MY PERSONAL INTEREST IN PROTECTING RIVERS AND STREAMS FROM MERCURY POLLUTION



Open Ended Responses

***Note**: Taken verbatim from returned surveys*.

Question #2: How would you describe your primary business?

Other:

Antique - Classic Pre-1970
Antique restoration
Auto Garage and Sales of Auto
Auto parts and recycling
Auto Sales
Car & Truck Dealer
Construction business, have heavy equipment.
Hobby
Junkyard and used cars
New and used parts sales.
Part cars for my own vehicles
Parts for our own use or fix
Pick up junk cars for scrap metal
Private use
Restore Antique Autos
Sales
Scrap metal recycler and shredder
Selling used vehicles.
Storage
Storage of vintage autos for own use
Towing
Towing and trucking
Towing
Truck sales and parts
Used car dealer
Used car sales
Used car sales
Used car sales
Used cars
Very small only 5 or 6 stored for my parts
We simply have very few cars on hand (none now). When we do we have them crushed.

Question #6: How did you hear of this Program?

Mail/Letter/Memo:

DEP Mailers.
Information sent to us when applying for my junkyard license with the town.
January 7, 2003 memorandum from DEP.
Legislative Newsletter.
Letter from DEP.
Mail sent to me.
Sent me papers.
The DEP sent us a letter.

Newspaper related:

Newspaper
WTVL Sentinel

MARA related:

Belong to MARA.
From MARA (Maine Auto Recyclers Assoc.)
I belong to MARA and they gave me a date to attend a DEP workshop.

Other:

Bigger recyclers.
Casual mention from a friend.
From DEP and Maine Motor Vehicle.
Have bucket, tape and workbook.
I called DEP.
I do not run a salvage business.
Made a video about it.
NFIB Member.
Town of Norridgewock meeting.
Town official

Question #9: Do you have any comments or suggestions on these materials?

Dismantlement/removal done by someone else:

I do not scrap vehicles, I remove some body parts then send vehicle to auto salvage yard.
I don't participate in removing mercury switches, I only use body parts and give the rest of the car to local junkyard.
I have not taken any mercury switches off. I have not dismantled or junked out any autos for about 8 years. I do sell some autos to used auto parts yards.
I pick up junk cars around the area and when junk prices are up I call a crusher. They remove the switches and take them with them.

More/updated information needed:

A list of locations of switches on automobiles.
I was wondering if you had a guide that tells where switches are in each individual vehicle.
I would like to have the materials listed in #8. I think they would be helpful.
Instruction manual does not include Volvo - all I do is Volvo. I am leaving the switch in the unit and storing the whole thing.
Need to receive more information.
The material related to large commercial vehicles needs improvement.
Updated sheets, laminated, as vehicles with switches, or headlamps are manufactured with locations of switches saves a lot of time.

Against the VIN # requirement:

Get rid of the VIN #'s!!!
I do not remember anything being said about VIN # to be listed with switches. I have got mercury switches in bucket including one glass switch.
I would prefer to not record VIN #'s and forgo the bounty.
Most of the switches I have collected are from cars that were crushed a long time ago. No VIN available. VIN requirement is an impediment to compliance.
Very time consuming to write VIN number down.

General positive comments:

Have removed 1300 to date.
I attended the dinner and workshop, job very well done!
The mailings are appreciated that are informative. We need these to keep us abreast of the new laws.
We're all for it! It's about time.

Other:

1) Don't make the stuff if it's that dangerous. 2) Time required now to prepare a scrap vehicle exceeds the money received from it. Therefore a lot of cars are sitting in the woods.
A 15-gallon pail and video and piece of paper don't make removal any easier. It still takes 1 breathing body$$$.
I already fill out a form to send to Bureau of Motor Vehicles.
I am currently getting rid of my cars.
I have only one switch and I am waiting till I have 2 to turn them in.
More storage buckets provided at onetime.
No, I'm very small but aware of it.
Not until I have received them.
The dollar bounty should be a little more, not too much more because I would not want to see them worth so much they were getting stolen but enough to offset some of your time to collect and drop them off.

They are ok.
We are finding that most vehicles don't have mercury switches.
Where and when can I receive the materials to begin recycling?

Question #11: Do you have any comments or suggestions for the program?

Dismantlement/removal done by someone else:

After the parts I need are removed the car is passed to another recycler for final disposal.
Although I am an auto re-builder, I do not scrap vehicles. I dispose of the complete vehicle in a larger facility and they remove the switches. There should be an exemption for my circumstance.
Any dismantling on our cars is done by whoever hauls them off, we do not dismantle.
We do not remove, we require switches removed before acceptance at our facility.

Bounty money not enough:

Bounty should be higher.
I don't think the $1 bounty begins to cover the cost of the program. The cost should not fall on the small business owner.
More money for switch removal and cost of transporting to a Wisco drop off location.
The whole world should do this. We lose money at $1.00 per switch, should be $10.00 or nothing. Do it for free to protect water.

General positive comments:

Doing very well.
I feel like we are doing our part in having a safe environment.
I feel the program is good. My cars only stay on site 1 to 3 years and then get crushed. I sell very few parts but make money from the rushing process and they remove the switches.
I like the program, I appreciate the help and I hope everyone works hard at it.
I think it is good.
Well intended, very important. I have a low volume auto salvage yard. I have removed them but don't have many late model wrecks.
We're all for it! It's about time.

Big vs. small junkyard related:

It seems that the DEP and MARA have control of this business and want to stop the small 1 or 2 man operations from being successful or even surviving.
Keep the very small recycler in mind when you pass new rules or laws. It's easy to listen to the well-financed dealers whose situation is far removed from ours.
MARA is no help for micro-yards like mine. No use expecting $1 when no VIN # available. I am very pleased to see the DEP focusing energy on helping rather than being focused solely on enforcement actions.
To have more than 2 vehicles in yard you have to have a junkyard license. So now everyone has a job and I have to pay more. I like having more than 2 vehicles in yard.
Yards should be statewide not a few high profile yards. Whether 100 cars or 1000 cars, more enforcement and periodic inspections of all not a selected few. Some high profile yards have to comply which means spending money and smaller yards are passed by.

Against the VIN # requirement:

I did not know I needed VIN numbers for switches.
I had no idea that I needed VIN #'s to collect my bounty. Now I don't know what to do.
Keeping track of VIN numbers is a pain and not needed as long as we are keeping them from environment.

Other:

Cradle to grave- Make the auto manufacturers responsible for the switches they produced.

Currently I have not crushed any vehicles so haven't currently removed any.

Do not participate.

I understand I turn in switches when I crush vehicles and can keep switches in cars or containers until then.

I would like to receive the recycling materials.

If removal was required for State inspection, most switches would be gone in 2 years. This method will take 15 years.

Mercury switches should not be installed in any vehicle.

No comment or suggestions at this time. The meeting at Augusta was very helpful, thank you.

No.

Removing the light units from Volvos is not hard, removing the glass switch from the light has no instruction in manual.

Since I deal mostly with trucks over 10,000 GVW, haven't used the materials yet but I will as needed.

This is the second time I have done this survey.

Why wouldn't I answer 12 & 13 if I need the materials?

Would like to have a drop off location in Waterville or Augusta.

Survey Instrument

Maine Department of Environmental Protection
Mercury Switch Removal Program Survey

Instructions: Please complete the survey by marking the appropriate box or filling in your answer in the space provided.

1. Do you currently dismantle, scrap or store obsolete or non-working vehicles?

☐	YES	**Please continue**
☐	NO	**Thank you, this survey is for those who dismantle, scrap or store obsolete or non-working vehicles. We would still appreciate it if you would return this survey in the enclosed business reply envelope so that we do not send you additional surveys or reminders.**

2. How would you describe your primary business?

☐	Automobile dismantling and recycling
☐	Automobile grave yard ("u-pull-it")
☐	Scrap metal junkyard
☐	Vehicle service
☐	Auto body shop
☐	Auto rebuilder
☐	Other (please specify) _____

3. On average, how many cars do you keep on site at any one time? _____

4. Have you heard of a program sponsored by the Maine Department of Environmental Protection (DEP) to assist businesses in removing mercury switches from scrapped motor vehicles?

☐	YES	**Please continue to question 5**
☐	NO	**Please <u>skip</u> to Page 4 and question 12 – do not answer questions 5 through 11**

5. Do you currently participate in the Department of Environmental Protection's program to remove mercury switches and recycle them?

☐	YES
☐	NO

Continued on next page

6. How did you hear of this program? *Mark all that apply.*

☐	I attended a DEP workshop
☐	I read about it in a DEP newsletter
☐	I heard about it from another business owner
☐	I heard about it from DEP staff
☐	I read about it in a (non-DEP) newsletter or publication. Which one?_____
☐	Other (please specify)_____

7. The Department of Environmental Protection provides free materials to assist in the removal of mercury switches. For each of the following, please indicate whether or not you are aware of its availability.

	Aware	Not Aware
a. Instructional Video	☐	☐
b. Printed instructional manual ("Auto Dismantlers Guide")	☐	☐
c. Laminated switch removal instructions for use by mechanics	☐	☐
d. Secure Storage Pail for mercury switches	☐	☐
e. Log Sheets for recording VIN numbers	☐	☐

8. The Department of Environmental Protection would like to know how useful you find the free materials it provides to assist in the removal of mercury switches. For each of the following, please indicate whether you have not received it, or if you have received it, whether you find it very useful, somewhat useful, not very useful or not at all useful.

	I have not received it	I have received it and find it….			
		Very Useful	Somewhat Useful	Not very Useful	Not at all Useful
a. Instructional Video	☐	☐	☐	☐	☐
b. Printed instructional manual ("Auto Dismantlers Guide")	☐	☐	☐	☐	☐
c. Laminated switch removal instructions for use by mechanics	☐	☐	☐	☐	☐
d. Secure Storage Pail for mercury switches	☐	☐	☐	☐	☐
e. Log Sheets for recording VIN numbers	☐	☐	☐	☐	☐

Continued on next page

9. Do you have any comments or suggestions on these materials?

10. Please tell us how each of the following effects your participation in the mercury switch recycling program.

	It encourages my participation	It has no effect on my participation	It discourages my participation
a. The $1 bounty for each returned switch	☐	☐	☐
b. DEP assistance including manuals, training, laminated cards and buckets	☐	☐	☐
c. The Wesco switch drop off locations in Bangor or Portland	☐	☐	☐
d. The time required to remove switches	☐	☐	☐
e. The need to provide a VIN (Vehicle Identification Number) to receive the bounty for each switch	☐	☐	☐
f. My personal interest in protecting rivers and streams from mercury pollution	☐	☐	☐
g. Support from the Maine Auto Recyclers Association	☐	☐	☐

11. Do you have any comments or suggestions on the program?

These are all the questions we have for you. Please do not answer questions 12 & 13. Thank you for taking the time to complete this survey. Please return the survey in the envelope provided.

If you would like to receive information or free materials on the program, please complete the order form on Page 4.

Only if you answered NO to question 4, answer questions 12 and 13 below.

12. The Department of Environmental Protection conducts a program to assist auto recyclers in meeting requirements for recycling mercury switches from automobiles. Switches may eventually release the dangerous mercury inside and affect the water quality in lakes, rivers and streams. Removal of a switch takes a few minutes and helps protect our fish and wildlife. For each returned switch, a bounty of $1 is paid. The DEP provides a video describing how to remove switches, a written instruction manual, laminated instruction cards to keep in the shop and a bucket to hold and store switches.

How interested are you in receiving compliance assistance from the DEP?

☐	Very Interested	☐	Not Very Interested
☐	Somewhat Interested	☐	Not at all Interested

13. Why do you say that?

_____

_____

Thank you for taking the time to complete this survey. Please return the survey and order form in the envelope provided and mail to:
Market Decisions, P.O. Box 2890, South Portland, ME 04116

If you would like to receive information or free materials on the program, please complete the order form below.

Order Form – Complete this form for Free Materials and Information

☐	Send me more information on how the program works
☐	Have someone from the DEP contact me

Send me the following materials:

☐	Instructional video	☐	Secure mercury switch storage bucket
☐	Written instructional manual	☐	Universal waste label for the storage bucket
☐	Laminated instruction cards for use by shop mechanics	☐	VIN log sheet

Name: _____

Company: _____

Address: _____

City: _____ Zip Code: _____

APPENDIX E

Maine's mercury removal law upheld

Portland Press Herald, February 18, 2004
Joshua L. Weinstein, Staff Writer

A federal judge on Tuesday upheld Maine's first-in-the-nation law that forces automobile manufacturers to pay for the removal of light switches and other switches that contain mercury before junked cars are recycled into metal.

In declaring that the law, which took effect on Jan. 1, 2003, is constitutional, U.S. District Judge John Woodcock ruled against the Washington, D.C.-based Alliance of Automobile Manufacturers.

Now that a federal court here has ruled on the matter, experts believe other states will pass similar laws. Massachusetts, Pennsylvania and Minnesota are considering their own versions of Maine's law.

State Sen. John Martin, a Democrat from Eagle Lake who sponsored the law in 2002, said the judge's decision "demonstrates that states do have power, if they want to exercise that power, to do the right thing. I've had a number of inquiries from other states, and they were just waiting for a court decision to do the same thing."

The law is designed to prevent mercury switches in junked vehicles in Maine from being incinerated and having the toxic metal released into the air. The law requires junkyards and scrap yards to remove the switches before sending dismantled vehicles off to be crushed or shredded and ultimately smelted into recycled metal.

It does something else, as well: It forces manufacturers of motor vehicles that contain mercury switches or headlamps to pay a $1 "bounty" for the switches. It also requires manufacturers, which are represented by the Alliance, to set up centers that collect the switches and ship them to recycling centers. By law, such centers cannot be automobile dealerships.

Charles Territo, a spokesman for the Alliance of Automobile Manufacturers, said his organization filed the lawsuit "to stop Maine from enforcing what we thought was an unconstitutional law that required us to pay for the recovery of mercury convenience switches from scrap motor vehicles,! and although our members have been complying with the law since January of 2003 and will continue to do so, we still view the law as unconstitutional."

The Alliance of Automobile Manufacturers is a trade association of nine car and light truck manufacturers including BMW Group, DaimlerChrysler, Ford Motor Co., General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen. DaimlerChrysler, Ford and General Motors are the companies affected by the law, because generally, American manufacturers used the switches. They stopped using mercury switches in 2002.

Territo said he hopes other states do not use Maine's law as an example.

"The industry has proven that we are willing to do our part to eliminate mercury from vehicles," he said. "Until the Maine law was passed, handling these materials for recycling or disposal was simply a cost of doing business as a dismantler."

The industry contends, he said, that the law "was a deliberate attempt to shift the cost and responsibilities of handling mercury-containing electrical switches . . . away from in-state businesses and placing the burden on out-of-state manufacturers."

If that were the case, it would violate the commerce clause of the U.S. Constitution.

Last July, U.S. Magistrate Judge Margaret Kravchuk said it was not the case. She issued a 33-page recommended decision for Woodcock that month. On Tuesday, Woodcock issued a 2-page order saying Kravchuk was right.

In her opinion, Kravchuk wrote, "the alliance fails utterly, though understandably, to demonstrate that the Act undermines the ability of automakers to compete against any Maine enterprise in any market contest."

John James, an environmental specialist at the Maine Department of Environmental Protection, said the department is pleased with the decision.

He said in the year since the law has been in effect, about 2,000 switches have been turned in. That is fewer than the department had hoped. He said he believes more switches have been removed, but have not yet been turned in to the centers for the $1. The buckets that the DEP gave auto dismantlers can hold several thousand switches, and James figures many scrap yards are waiting until the buckets are full to turn them in.

Jon Hinck, a lawyer with the Natural Resources Council of Maine, praised the court decision and called the Maine law "a landmark manufacturer-responsibility statute."

Karen Thomas, of the Massachusetts organization Environmental Defense, said it is "very innovative to hold the automakers responsible for the design decision to use mercury in the vehicles," and that "other states are looking to go down the same road as Maine with this approach. I believe that they will be emboldened by the fact that the judge has ruled that the unconstitutionality claims are not valid."

UNITED STATES DISTRICT COURT

DISTRICT OF MAINE

ALLIANCE OF AUTOMOBILE MANUFACTURERS,	)	
Plaintiff	)	
v.	)	Civil No. 02-149-B-W
MARTHA KIRKPATRICK,	)	
Defendant	)	

RECOMMENDED DECISION ON CROSS-MOTIONS FOR SUMMARY JUDGMENT

The Alliance of Automobile Manufacturers filed suit against Martha Kirkpatrick, Commissioner of the Maine Department of Environmental Protection, seeking a declaration that a recently-enacted Maine law, which requires certain automobile manufacturers to, among other things, pay a one-dollar bounty for mercury switches recovered from their automobiles and to establish in Maine consolidation facilities for the collection of mercury switches, violates the Constitution of the United States, primarily the "dormant" Commerce Clause, but also the Equal Protection Clause and the Due Process Clause of the Fourteenth Amendment.[1] The Alliance and the Commissioner have now submitted cross-motions for summary judgment. I recommend that the Court **DENY** the Alliance's motion for summary judgment and **GRANT** the Commissioner's motion for summary judgment.

Summary Judgment Material Facts

The following facts are drawn from the parties' Local Rule 56 statements of material facts. The facts related herein are largely free of significant dispute. Prior to 2003, many motor vehicle manufacturers[2] installed in their vehicles, most commonly under the hood and in the

[1] The Alliance's complaint includes a count premised on the Freedom of Speech Clause. That count was voluntarily dismissed with prejudice. (St ip. of Vol. Dismissal of Count V of Pl.'s Complaint, Docket No. 22.)

[2] In approximately 1993, Sweden banned the sale of motor vehicles containing mercury switches, after which all European automakers discontinued the use of mercury switches in their automobiles. (Defendant's

trunk, electrical light switches containing small amounts of mercury. (Plaintiff's Supporting St. of Mat. Facts, Docket No. 19, ¶¶ 1, 2.) These manufacturers gradually discontinued using mercury light switches between 1993 and 2002, when the use of mercury light switches in new[3] motor vehicles was discontinued altogether. (Id., ¶ 5; Defendant's St. of Undisputed Mat. Facts, Docket No. 38, ¶¶ 64-68, 82, 87, 116-119.[4]) Despite this downward trend, hundreds of thousands of vehicles are currently in operation throughout the United States that contain mercury switches. Indeed, in the last five years General Motors Corporation ("General Motors") alone[5] has sold hundreds of thousands of vehicles containing mercury switches. (Docket No. 38, ¶ 121.) In addition to these vehicles are many more manufactured and sold by Ford and DaimlerChrysler. According to the parties' statements, any 1999 or older motor vehicle manufactured by Ford or General Motors and any 1998 or older motor vehicle manufactured by Chrysler that includes convenience lighting in its options package is likely to contain mercury switches. (Docket No. 38, ¶¶ 20D, 67.) Although the volume of mercury contained in a single mercury switch is small, the total volume of mercury contained in these vehicles is suggested by the following fact: according to General Motors's estimate, when it eliminated mercury from the under hood convenience lamp switches in just its Chevrolet Silverado pickup truck, it eliminated over one ton of potential mercury exposure to the environment per model year. (Id., ¶ 123.) Although the total annual number of mercury-laden vehicles that end their useful lives in Maine is not suggested in the parties' statements, in each of the last five years General Motors alone has sold in Maine over 15,000 motor vehicles. (Id., ¶ 138.)

The parties are in agreement that mercury is a toxic metal and that the release of mercury poses a threat to the environment and human health. (Id., ¶ 137.) Due to the harm that mercury is capable of causing Maine citizens and wildlife, the Maine Legislature has taken measures to curtail the volume of mercury released into the environment both locally and, with the advent of the Act challenged herein, upwind. According to a 1998 report issued by Maine's Land and Water Resources Council, air emissions are the most significant pathway for mercury

---

Statement of Undisputed Mat. Facts, Docket No. 38, ¶ 65.) Other foreign automakers, specifically Toyota and BMW, never installed mercury switches in their automobiles. (Id., ¶ 64.)

[3] Malfunctioning mercury switches contained in pre-2003 model year motor vehicles may still be replaced with mercury switches, where inventories are available, though it is now prohibited for any person to sell or distribute in Maine mercury switches for installation in motor vehicles. 38 M.R.S.A. § 1665-A(2).

[4] The Commissioner's principal statement of facts suffers from significant redundancy. Note, too, that the cited statement is a revised edition, hence it appears higher in the docket than does the Alliance's opposition statement. The reason for this is that the Alliance produced the Joint Appendix and the Commissioner submitted revised statements in order to cite the documents contained therein by tab number.

[5] General Motors Corporation's sales account for approximately 28 percent of the American motor vehicle market. (Docket No. 38, ¶ 108.)

contamination of Maine's environment due to precipitation of airborne mercury and consequent deposition on Maine land and waters surfaces. (Defendant's St. of Undisputed Mat. Facts, Docket No. 38, ¶¶ 4, 5.) According to the Council, approximately 78 percent of Maine's anthropogenic[6] deposition of mercury stems from emissions originating in the Northeast United States. (Id., ¶ 5.)

Beginning in 1998, the Maine Legislature commenced a series of legislative enactments designed to, among other things, remove mercury-laden consumer, medical and industrial goods from Maine's waste stream. (Id., ¶¶ 8-10.) Of the numerous mercury-laden products identified by the Land and Water Resources Council, the mercury switches contained in motor vehicles ranked fourth in terms of annual mercury generation. (Id., ¶ 10.) According to an estimate by General Motors, mercury contained in hood and trunk convenience light switches accounted for some 9.6 tons per year. (Id., ¶ 100.) More than 99 percent of mercury contained in motor vehicles is contained in these switches. (Id., ¶ 20A.) Although there is no evidence that the mercury contained in mercury switches poses a threat to human welfare or the environment while encapsulated within a switch, there are various pathways by which it can enter the environment at the end of a motor vehicle's useful life. (Docket No. 19, ¶¶ 6, 7, 8.)

The dismantling and recycling of end-of-life motor vehicles has given rise to its own industry, described by the parties as the end-of-life vehicle industry, or ELV industry. A portion of this industry is comprised of the junk yards and salvage yards that dismantle ELVs and send their metal frames and chassis scrap ("motor vehicle hulks" or "hulks") to be crushed and/or shredded and then smelted into recycled metal. (Id., ¶ 7.) It is estimated that Maine is home to between 700 and 800 dismantling operations. (Defendant's St. in Opp. . . . and Supp. St. of Add. Mat. Facts, Docket No. 37, ¶ 8 Supplemental.) These dismantlers are licensed at the local level. (Docket No. 37, ¶ 8 Supplemental.) None of Maine's dismantlers engage in shredding or smelting; those operations are performed by businesses located outside of Maine. (Docket No. 19, ¶¶ 7, 8, 9, 10, 12; Docket No. 37, ¶ 15.) Because no Maine businesses engage in shredding or smelting operations, the mercury contained in mercury switches is most likely to be released at shredding and smelting facilities located outside of Maine, unless Maine dismantlers remove the switches prior to sending motor vehicle hulks out of the State.[7] (Docket No. 38, ¶ 20E.) It

[6] The parties agree that approximately one-third of global mercury emissions are from natural sources such as volcanoes and forest fires, and two -thirds are from anthropogenic sources. (Docket No. 19, ¶ 17.)

[7] The Alliance does not contest that mercury switches ought to be removed prior to crushing, shredding or smelting. The Alliance also agrees with the Maine Legislature's decision to have mercury switches removed from ELVs, rather than in -service vehicles, and that the duty to remove the switches should fall on the ELV industry. (Docket No. 27, ¶¶ 95, 96, admitting statements contained in Docket No. 38, ¶¶ 95, 96.)

appears that there are three primary pathways by which the mercury in mercury switches is introduced to the natural environment: it might fall to the ground during crushing and shredding operations, be smelted directly into recycled metal, or be discharged into the atmosphere through smokestacks connected to smelting operations. (Id., ¶¶ 20E, 20F, 20G, 20H, 52, 113.)

States containing large numbers of smelting operations employed for the purpose of recycling motor vehicle hulks (New York, New Jersey, Pennsylvania and Ohio) are located upwind from Maine. (Id., ¶ 20H.) As a result, mercury emitted from these smokestacks may ultimately be deposited on Maine land and water surfaces, whereupon it can be converted into methyl mercury, a neurotoxin that bio-accumulates as it progresses up the food chain. (Id., ¶¶ 20H, 115.) As the Alliance itself puts forth in its statement of undisputed material facts, "Air emissions are the most significant pathway for mercury contamination of Maine's environment. Mercury present in the atmosphere is washed out via precipitation. The mercury present in precipitation . . . may have its origins in other continents, the U.S., New England, or Maine." (Docket No. 19, ¶ 16.)

The Maine Legislature has enacted a mercury switch recovery scheme in order to prevent mercury switches in Maine ELVs from being incinerated in out-of-state smelting operations. This statutory scheme is referred to throughout the parties' briefs as L. D. 1921 and is codified at 38 M.R.S.A. § 1665-A. I will refer to it simply as the Act. Pursuant to subsection 1 of the Act, it is now unlawful to sell in Maine motor vehicles containing mercury switches. 38 M.R.S.A. § 1665-A(1). Pursuant to subsection 3 of the Act, Maine junk yards and scrap yards are prohibited from "sending" ELVs containing mercury switches to be "flattened, crushed or baled" without first removing their mercury switches, unless the facility that performs flattening, crushing or baling operations agrees to remove the mercury switches itself.[8] Id., § 1665-A(3). The Alliance does not object to either of these provisions. Its challenge is targeted instead at four particular provisions found in subsection 5 of the Act. Subsection 5 provides as follows:

> 5. MOTOR VEHICLE MANUFACTURER RESPONSIBILITY.
>
> Manufacturers of motor vehicles sold in this State that contain mercury switches or mercury headlamps shall, individually or collectively, do the following:
>
> A. By January 1, 2003, establish and maintain consolidation facilities geographically located to serve all areas of the State to which mercury

[8] The Alliance contends that Maine law prior to § 1665-A required junk yards and scrap yards to remove mercury switches before sending ELV hulks for recycling. The Commissioner denies this assertion and takes the position that there was no such requirement prior to passage of § 1665-A. As discussed below, I am not persuaded that t his issue is material to the dispute.

> switches removed pursuant to this section may be transported by the persons performing the removal. A consolidation facility may not be a facility that is licensed in the State as a new or used automobile dealership;
>
> B. Pay a minimum of $ 1 for each mercury switch brought to the consolidation facilities as partial compensation for the removal, storage and transport of the switches;
>
> C. Ensure that mercury switches redeemed at the consolidation centers are managed in accordance with the universal waste rules adopted by the board under subsection 8; and
>
> D. Provide the department and persons who remove motor vehicle components under this section with information, training and other technical assistance required to facilitate removal and recycling of the components in accordance with the universal waste rules adopted by the board under subsection 8, including, but not limited to, information identifying the motor vehicle models that contain or may contain mercury switches or mercury headlamps.
>
> The goal of this collection and recycling effort is to collect and recycle at least 90 pounds of mercury per year from mercury switches removed from motor vehicles. 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.
>
> In complying with the requirements of this subsection, manufacturers of motor vehicles shall establish a system that does not require a person who removes a mercury switch to segregate switches separately according to each manufacturer of motor vehicles from which the switches are removed.

The Act was signed into law by the Governor on April 10, 2002. (Docket No. 38, ¶ 42.) On September 30, 2002, the Plaintiff submitted its initial Compliance Plan to the Maine Department of Environmental Protection ("MDEP"). The Plan represented that certain Alliance members would contract with a company already operating a universal waste management and recycling center in the State of Maine to operate two consolidation facilities serving all of the participating manufacturers. The manufacturers' plan stated that each container of mercury switches delivered to the consolidator should be accompanied by a sheet showing the makes, models, years and vehicle identification numbers of the source vehicles. (Id., ¶ 43.) Pursuant to its rulemaking authority, the MDEP provisionally approved the manufacturer's plan, but indicated that dismantlers could only be required to provide vehicle identification numbers for each switch. (Id., ¶ 44.) It is expected that the use of vehicle identification numbers to allocate

responsibilities among automobile manufacturers will enable the manufacturers to allocate costs amongst themselves. (Id., ¶ 111.)

Mercury switch consolidation facilities have now been "established" in Bangor and Portland and are presently accepting switches. (Id., ¶¶ 45, 140.) Pursuant to contractual arrangements with these facilities, Alliance members pay the facilities two dollars per switch: one dollar in accordance with the Act's bounty provision and another in administrative costs to the consolidation facilities. (Id., ¶ 145; Docket No. 27, ¶ 145.) The Alliance asserts that its members incurred roughly $200,000 in start up costs as of December 31, 2002, and project annual costs of $120,000. (Plaintiff's Opp. St. of Mat. Facts, Docket No. 27, ¶ 48, admitting statement contained in Docket No. 38, ¶ 48.) However, it also indicates that it does not know the true cost and that these figures reflect "back of the envelope stuff," including such items as "establishing individual contractual relationships" with the consolidator and labor costs associated with paying manufacturer employees to administer the contracts and attend to general compliance obligations. (Docket No. 38, ¶¶ 142-144; Docket No. 27, ¶¶ 142-144; see also Joint Appendix Tab 27, p.4, ¶ 4.) Hard costs on record appear to be roughly $350.00, or $2.00 per switch for the 175 switches recovered as of the close of the summary judgment record. (Docket No. 38, ¶ 140; Docket No. 27, ¶¶ 140, 145.)[9]

[9] The parties' various summary judgment statements present a considerable amount of legislative history, much of it consisting of oral statements made by particular legislators in the course of floor debates. I have not reproduced much of this information herein, considering it to be immaterial in the main. The questions presented essentially require the Court to consider the benefits of an act with its burdens and whether those burdens and their allocation can be supported by a legitimate rationale. What the benefits are to the State and its citizenry and what the burdens are to the Plaintiff can largely be assessed based on the unambiguous statutory language and the factual showings made by the litigants. I recognize that the Alliance considers the legislative record to be the soil from which its claims grow, but that is simply indicative of a major weakness in its case. For example, the foundation of the Alliance's claims is the contention that "the legislative debates focused *exclusively* on the question of who should pay" and that the legislative agenda was to ensure that "Maine voters should not have to pay if outsiders could be forced to do so." (Plaintiff's Reply Memo., Docket No. 31, at 1 & 3.) But this does not aid the analysis because there is nothing fundamentally wrong with the State imposing burdens on "outsiders" so long as the imposition does not disrupt the Nation's commerce and a rational nexus exists between the imposition and the outsiders' conduct, as opposed to exclusive reliance on fundamentally unfair classifications or actual animus. See, Exxon Corp. v. Governor of Maryland, 437 U.S. 117, 126 (1978) ("The fact that the burden of a state regulation falls on some interstate companies does not, by itself, establish a claim of discrimination against interstate commerce."); Philadelphia v. New Jersey, 437 U.S. 617, 626 (1978) ("This dispute about ultimate legislative purpose need not be resolved, because its resolution would not be relevant to the [Commerce Clause] issue to be decided in this case. Contrary to the evident assumption of the state court and the parties, the evil of protectionism can reside in legislative means as well as legislative ends. Thus, it does not matter whether the ultimate aim of ch. 363 is to reduce the waste disposal costs of New Jersey residents or to save remaining open lands from pollution, for we assume New Jersey has every right to protect its residents' pocketbooks as well as their environment."); FCC v. Beach Communications, 508 U.S. 307, 314 (1993) ("[A] statutory classification that neither proceeds along suspect lines nor infringes fundamental constitutional rights must be upheld against equal protection challenge if there is any reasonably conceivable state of facts that could provide a rational basis for the classification."). In the words of Supreme Court Justice Robert Jackson:

> Resort to legislative history is only justified where the face of the Act is inescapably ambiguous, and then I think we should not go beyond Committee reports, which presumably are well considered and carefully

DISCUSSION

The Alliance's challenges to the Act concern, specifically, the (1) one dollar per switch bounty, (2) the requirement that they "establish and maintain consolidation facilities," (3) the prohibition against using automobile dealerships as consolidation facilities, and (4) the prohibition against requiring dismantlers "to segregate switches separately according to each manufacturer." According to the Alliance, these four provisions offend the dormant Commerce Clause as well as the equal protection and due process components of the Fourteenth Amendment.[10]

Summary judgment is warranted only if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); United States Steel v. M. DeMatteo Constr. Co., 315 F.3d 43, 48 (1st Cir. 2002).

> Once a properly documented motion has engaged the gears of Rule 56, the party to whom the motion is directed can shut down the machinery only by showing that a trialworthy issue exists. As to issues on which the summary judgment target bears the ultimate burden of proof, she cannot rely on an absence of competent evidence, but must affirmatively point to specific facts that demonstrate the existence of an

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> prepared. I cannot deny that I have sometimes offended against that rule. But to select casual statements from floor debates, not always distinguished for candor or accuracy, as a basis for making up our minds what law Congress intended to enact is to substitute ourselves for the Congress in one of its important functions. The Rules of the House and Senate, with the sanction of the Constitution, require three readings of an Act in each House before final enactment. That is intended, I take it, to make sure that each House knows what it is passing and passes what it wants, and that what is enacted was formally reduced to writing. It is the business of Congress to sum up its own debates in its legislation. Moreover, it is only the words of the bill that have presidential [or gubernatorial] approval, where that approval is given. It is not to be supposed that, in signing a bill, the President [or Governor] endorses the whole Congressional Record. For us to undertake to reconstruct an enactment from legislative history is merely to involve the Court in political controversies which are quite proper in the enactment of a bill but should have no place in its interpretation.

Schwegmann Bros. v. Calvert Distillers Corp., 341 U.S. 384, 395-396 (1951) (concurring opinion). In short, "[t]he motivation of particular members of the state legislature does not render a valid statute invalid." Kentucky West Virginia Gas Co. v. Pennsylvania Public Utility Com., 837 F.2d 600, 616 (3d Cir. 1988). As an illustration of the problem, consider the fact that the language of the Act shields automobile dealerships from the burdens associated with mercury switch recovery. This fact is immediately obvious from the statutory language. The fact that a legislator might have stated that that was the purpose of the provision, thus, comes as no surprise and does nothing to further the case.

To the extent that the Alliance believes that one or more of the statements of legislative history is material to the outcome of this case and would require the Court to decline to follow my Recommendation, it should so state in an objection and make an effort to explain therein why that statement of fact is material.

[10] Unlike the Alliance's summary judgment memoranda, the Alliance's complaint apportions its claims differently, challenging the bounty and consolidation provisions exclusively under the dormant Commerce Clause and contesting the other two provisions based exclusively on equal protection and due process concepts. Although it was not lost upon the Commissioner, I overlook this discrepancy in light of the liberal notice pleading requirements of Rule 8.

> authentic dispute. Not every factual dispute is sufficient to thwart summary judgment; the contested fact must be "material" and the dispute over it must be "genuine." In this regard, "material" means that a contested fact has the potential to change the outcome of the suit under the governing law if the dispute over it is resolved favorably to the nonmovant. By like token, "genuine" means that the evidence about the fact is such that a reasonable jury could resolve the point in favor of the nonmoving party . . . .

McCarthy v. Northwest Airlines, Inc., 56 F.3d 313, 315 (1st Cir. 1995). Given the state of the record and the nature of this case, it is apparent that the Court can and should enter final judgment at the summary judgment stage.

I. The Dormant Commerce Clause

Article I, Section 8, Clause 3 of the Constitution cedes to Congress the power "to regulate Commerce . . . among the several States." The Supreme Court has recognized as implicit within this affirmative grant of power is a "negative" or "dormant" aspect that restricts the ability of state and local governments to burden interstate commerce by impeding private trade in the national marketplace through local regulation or taxation. GMC v. Tracy, 519 U.S. 278, 287 (1997). Overarching all Commerce Clause cases is the purpose for which the Commerce Clause was enacted. That purpose, in a nut shell, is to ensure that every producer of goods or services "shall be encouraged to produce by the certainty that he will have free access to every market in the Nation [and that] every consumer may look to the free competition from every producing area in the Nation to protect him from exploitation by any." H. P. Hood & Sons, Inc. v. Du Mond, 336 U.S. 525, 539 (1949).

The dormant Commerce Clause has been awakened under a handful of scenarios. One scenario involves state regulation or taxation that is designed to give domestic enterprises some commercial advantage over out-of-state competitors, e.g., New Energy Co. of Ind. v. Limbach, 486 U.S. 269, 273-74 (1988) ("The Ohio provision at issue here explicitly deprives certain products of generally available beneficial tax treatment because they are made in certain other States . . . ."); West Lynn Creamery v. Healy, 512 U.S. 186, 199-200 (1994) (invalidating a Massachusetts milk pricing order where a tax on milk, though applied equally to in-state and out-of-state producers of milk, was joined with a subsidy that paid the entire tax assessment out to only in-state producers). Another scenario presents regulation that "overtly blocks the flow of interstate commerce at a State's borders." Philadelphia v. New Jersey, 437 U.S. 617, 624 (1978). These cases are typically described as "discrimination" or "economic

protectionism" cases. New Energy, 486 U.S. at 278-79.[11] A third scenario involves regulatory measures that are neither discriminatory nor protectionist, but have the effect of regulating commercial activity occurring in other states. E.g., Edgar v. MITE Corp., 457 U.S. 624, 643 (1982) (holding that an Illinois securities law violated the dormant Commerce Clause because of its "nationwide reach which purports to give Illinois the power to determine whether a tender offer may proceed anywhere"). The bon mot typically applied to these cases is "extraterritorial effect."[12] Id. Both the "discrimination/protectionism" cases and the "extraterritorial effect" cases fall into the larger bucket of cases involving "direct restraints" on interstate commerce. Id. at 642. A fourth general scenario involves those cases in which a state law, though not necessarily protectionist, discriminatory or extraterritorial, "comes [into] direct collision" with federal regulation of interstate commerce, Gibbons v. Ogden, 22 U.S. 1, 221 (1824), "undermine[s] a compelling need for national uniformity in regulation," GMC v. Tracy, 519 U.S. at 298 n.12 (citing cases), or is otherwise "inimical to the national commerce," Southern Pacific Co. v. Arizona, 325 U.S. 761, 769 (1945) (involving intrastate train regulations). The final, catchall scenario involves statutes having only an indirect or incidental effect on interstate commerce, but which impose "clearly excessive" burdens on commerce in relation to "the putative local benefit." Pike v. Bruce Church, 397 U.S. 137, 142 (1970) (citing Huron Cement Co. v. Detroit, 362 U.S. 440, 443 (1960)). The Supreme Court has recently dubbed cases falling into the last scenario "so-called Pike undue burden" cases, GMC v. Tracy, 519 U.S. at 300 n.12.

Although dormant Commerce Clause cases come in a variety of guises, the threshold inquiry in most cases is "directed to determining whether [the regulation in question] is basically a protectionist measure, or whether it can fairly be viewed as a law directed to legitimate local concerns, with effects upon interstate commerce that are only incidental." Philadelphia v. New Jersey, 437 U.S. at 624. This initial inquiry is crucial. If the regulation discriminates against interstate commerce on its face, then "the virtually per se rule of invalidity provides the proper legal standard" and the regulation will be invalidated "unless [the state] can 'show that it advances a legitimate local purpose that cannot be adequately served by reasonably nondiscriminatory alternatives.'" Oregon Waste Systems, Inc. v. Dep't of Envtl. Quality, 511

[11] Other primary cases cited by the parties that involved discrimination/protectionism scenarios are Oregon Waste Systems, Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 100-101 (1994), Wyoming v. Oklahoma, 502 U.S. 437, 454-55 (1992); Maine v. Taylor, 477 U.S. 131, 138 (1986), and New Energy Co. v. Limbach, 486 U.S. 269, 274 -75 (1988).

[12] Another good example of an extraterritorial effect case is Brown-Forman Distillers Corp. v. New York State Liquor Authority, 476 U.S. 573, 582 (1986) (invalidating New York wholesale liquor price control legislation because "[f]orcing a merchant to seek regulatory approval in one State before undertaking a transaction in another directly regulates interstate commerce").

U.S. 93, 100-101 (1994) (quoting New Energy, 486 U.S. at 278). Otherwise, if the regulation is not facially discriminatory against interstate commerce, but affects interstate commerce only indirectly, the n the court must be persuaded[13] that the regulation imposes a clearly excessive burden on interstate commerce in relation to the putative local benefit. Pike, 397 U.S. at 142. In its principal memorandum of law, the Alliance attempts to side step this threshold consideration with a unique argument for the application of a "strict scrutiny," or per se invalid, standard. It essentially contends that its lack of success in its lobbying efforts makes strict scrutiny particularly appropriate. (Docket No. 18 at 19-21.) In taking this position, the Alliance appears to be asking the Court to take judicial notice of a less-than-obvious proposition: that automobile manufacturers are powerless to influence the Maine politic al process because they do not have manufacturing or assembly plants or facilities in Maine. (Id. at 19-21.) In my opinion, the suggested approach is entirely untenable and so is the suggestion that the Court might somehow find that the plaintiff had no ability to meaningfully influence the legislative process behind the Act. I am utterly at a loss as to why the Court should adjust the applicable legal standard based on how much relative influence a given plaintiff may have enjoyed with the Legislature. How could the Court meaningfully determine this question, let alone what the plaintiff might have reasonably accomplished had it chosen to exert itself in the legislative process more vigorously or in a different fashion? I find the suggestion impractical, particularly when one considers that the question at issue concerns the impact the Act has on interstate commerce, not the legislature's relative attentiveness to the plaintiff's private concerns.[14]

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[13] Although it is sometimes stated that the "burden of proof" falls exclusively on the plaintiff when the Pike standard is applied, see, e.g., Telvest, Inc. v. Bradshaw, 618 F.2d 1029, 1036 (4th Cir. 1980); Lenscrafters, Inc. v. Wadley, 248 F. Supp. 2d 705, 733 (M.D. Tenn. 2003), my assessment is that the Supreme Court has not expressly assigned burdens of proof, but rather burdens of persuasion. See Pike :

> Where the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature o f the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

397 U.S. at 142. Stated this way, it is conceivable that either party might jeopardize its case in certain circumstances by failing to introduce evidence at the summary judgment stage. In any event, whatever the burden of production might be, the burden of persuasion rests primarily with the plaintiff, particularly when it comes to the critical issue of excessiveness. N.H. Motor Transp. Ass'n v. Flynn, 751 F.2d 43, 48 (1st Cir. 1984) ("[T]he burden of proving 'excessiveness' falls upon the [plaintiff], not the state.")

[14] The Alliance cites some notable Supreme Court opinions in support of its position, most notably West Lynn Creamery, 512 U.S. at 200 ("Nondiscriminatory measures, like [an] evenhanded tax . . . are generally upheld, in spite of any adverse effects on interstate commerce, in part because 'the existence of major in -state interests adversely affected . . . is a powerful safeguard against legislative abuse.'") (quoting Minnesota v. Clover Leaf Creamery Co., 449 U.S. 456, 473 n.17 (1981)). (Plaintiff's Reply Memo., Docket No. 31 at 7.) However, these cases reflect a rationale the Supreme Court has used, in the context of the Pike undue burden test, as an additional

Before describing the Alliance's specific arguments, it is important to understand what the Alliance is not arguing. The Alliance does not argue that the Act is unconstitutional for any of the following reasons: because of an extraterritorial effect; because of a compelling need for national uniformity in the regulation of mercury switch disposal[15]; or because of the existence of preemptive federal regulation.[16] Nor does the Alliance contend that the Act in any way impedes its members' ability to market their products and services in Maine or in the broader interstate marketplace. Rather, the Alliance is complaining that the Act imposes unfair or unreasonable financial burdens on certain of its members because it forces them to pay a bounty to automobile dismantlers and to establish mercury switch consolidation facilities in Maine for the collection and disposal of mercury switches. (Docket No. 18 at 2-3.) According to the Alliance, this legislative scheme is blatantly protectionist and discriminatory because financial burdens are being imposed on automakers in order to subsidize participants in Maine's domestic ELV industry. (Id. at 3.) Alternatively, the Alliance would advance its cause under the so-called Pike undue burden standard. My assessment is that the Act is plainly not facially discriminatory, and therefore not appropriate for consideration under the per se invalid approach, that the Act is probably not even susceptible to Commerce Clause challenge at all, and that, in any event, it passes muster under the Pike undue burden standard.

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justification for upholding challenged regulations. See, e.g., Clover Leaf Creamery, 449 U.S. at 473 & n.17, and the cases cited therein. The Alliance's suggestion that these cases support the application of a strict scrutiny standard turns this line of precedent on its head. These cases all apply the Pike undue burden test, which reflects the Court's preliminary conclusion that the regulations at issue should not be subjected to heightened scrutiny.

For a taste of the kind of fact finding the Alliance's approach would require the Court to make, see the Defendant's Statement of Additional Material Facts, Docket No. 37, paragraphs 15 and 18, her Statement of Undisputed Material Facts, Docket No. 38, paragraphs 31 and 32, and the Declaration of Gregory Dana submitted by Plaintiff and contained in the Joint Appendix at Tab 32, ¶ 3, which recount some aspects of the Alliance's lobbying efforts. Obviously, much lobbying activity has nothing to do whatsoever with the common weal. In this light, how could the Court realistically weigh whether a plaintiff had a meaningful influence on the legislative process without also evaluating the merits of a plaintiff's lobbying efforts? To permit the parties to litigate this immaterial issue and to have the Court resolve it would essentially have this Court enforce the dormant Commerce Clause by ignoring the separation of powers doctrine. This Court is not a super-legislature. Legislative favoritism, in and of itself, is not subject to judicial review. Moreover, modifying the burden of proof plaintiff by plaintiff depending on some political influence standard, as the Alliance suggests, would have the Court violating the Equal Protection Clause.

[15] The Alliance does argue that the potential for other states to enact similar statutes should be considered when calculating the burden imposed by L. D. 1921 (Docket No. 18 at 31), but it does not suggests that a nationally uniform regulation should be imposed for the abatement of mercury switches.

[16] In Philadelphia v. New Jersey, the Supreme Court found that there was no "clear and manifest purpose of Congress . . . to pre-empt the entire field of interstate waste management or transportation . . . . To the contrary, Congress expressly has provided that 'the collection and disposal of solid wastes should continue to be primarily the function of [s]tate, regional, and local agencies.'" 437 U.S. 620 n.4 (quoting 42 U.S.C. § 6901(a)(4)) (internal quotation marks and citation omitted).

A. The Act's Provisions Are Not Per Se Invalid.

Contrary to the Alliance's claim, this case does not involve direct discrimination or protectionism. The Act's provisions apply without respect to domicile; they do nothing to discriminate in favor of domestic automobile manufacturers. Maine has no domestic automobile manufacturers to promote. (Docket No. 38, ¶ 46.) Cases in which the per se invalid language has been invoked involve regulatory measures that expressly make reference to in-state and out-of-state status as a factor on which differential treatment is based. E.g., Oregon Waste, 511 U.S. at 96 (concerning statutory "'surcharge' on 'every person who disposes of solid waste generated out-of-state'"); New Energy Co., 486 U.S. at 273-74 ("The Ohio provision at issue here explicitly deprives certain products of generally available beneficial tax treatment because they are made in certain other States . . . .") The Act under consideration here does not facially make the imposition of any burden or withholding of any benefit turn on in-state versus out-of-state status. If it did, the Alliance would not have to resort entirely to the legislative history in its effort to obtain a finding of discriminatory or protectionist intent.

B. The Act is Likely Insusceptible to Invalidation Under the Supreme Court's Dormant Commerce Clause Jurisprudence.

There appears to be available a very fundamental obstacle to the Alliance's ability to pursue its Commerce Clause claim under either the per se invalid or the undue burden approach. Recent Supreme Court precedent has strongly suggested that Commerce Clause claims of the kind at issue here (alleged protectionism) cannot jump across markets, but exist only where the state regulation at issue impacts the relative advantage of in-state and out-of-state enterprises in relation to their ability to compete in their particular market. GMC v. Tracy, 519 U.S. at 300 (holding that more favorable tax treatment of certain in-state natural gas sellers was not protectionism because those sellers served a different market than the less favorably treated, out-of-state sellers); see also Pharm. Research and Mfrs. of America v. Walsh, 123 S. Ct. 1855, 1871 (2003) ("Petitioner argues that Maine's Rx fund is similar [to a protectionist local subsidy funded by out-of-state businesses] because it would be created entirely from rebates paid by out-of-state manufacturers and would be used to subsidize sales by local pharmacists to local consumers. Unlike the situation in West Lynn, however, the Maine Rx Program will not impose a disparate burden on any competitors."). In a footnote to GMC v. Tracy, the Supreme Court suggested that even in the context of Pike-indirect burden claims a claimant must make a preliminary showing that the challenged regulation impacts competition in a particular market. 519 U.S. at 300 n.12 (suggesting that proof of "actual or prospective competition" should be shown even in the "so-called Pike undue burden test"). Notably, every Justice on the Court

agreed with this portion of the Court's opinion (Part IV), including the lone dissenter. Id. at 314 (Souter, J., dissenting, but agreeing, inter alia, with Part IV of the Court's opinion). Indeed, it stands to reason that a claimant raising the dormant Commerce Clause should show how invalidation of the challenged regulation would serve the purposes of the Commerce Clause, which are to ensure that producers of goods and services have access to the Nation's markets, that consumers have ready access to the Nation's products and services, and that the national economy is protected from the kind of economic Balkanization that plagued the colonies and confederated states.[17] Hughes v. Oklahoma, 441 U.S. 322, 325-26 (1979); H. P. Hood & Sons, 336 U.S. at 539. It is not apparent that the challenged provisions of the Act infringe upon any of these overarching goals. Nor has the Alliance produced any evidence or made any argument showing how these overarching goals—as opposed to its own economic interests—are even implicated by the Act.

In my assessment, the Alliance fails utterly, though understandably, to demonstrate that the Act undermines the ability of automakers to compete against any Maine enterprise in any market context. This would appear to be an effective bar to processing this case under the Commerce Clause. GMC v. Tracy, 519 U.S. at 300 ("Thus, in the absence of actual or prospective competition between the supposedly favored and disfavored entities in a single market there can be no local preference, whether by express discrimination against interstate commerce or undue burden upon it, to which the dormant Commerce Clause may apply."); see also Camps Newfound/Owatonna v. Town of Harrison, 520 U.S. 564, 601 ("Disparate treatment constitutes discrimination only if the objects of the disparate treatment are, for the relevant purposes, similarly situated.") (Scalia, J., dissenting); id. at 583 (reflecting majority's agreement with Justice Scalia's characterization of the holding in GMC v. Tracy). In its principal memorandum, the Alliance makes no reference at all to this "market" prerequisite of a Commerce Clause challenge. Instead, it continually describes the applicable standard as prohibiting, broadly, differential treatment of in-state and out-of-state "economic interests." (Docket No. 18 at 3 (citing Oregon Waste Sys., Inc. v. Dept. of Envtl. Quality, 511 U.S. 93, 99 (1994).) This "economic interest" shorthand should not be misconstrued as eliminating the market requirement set forth in GMC v. Tracy. Oregon Waste clearly concerned differential treatment of in-state and out-of-state participants in a particular market, because the regulation at

[17] The Third Circuit characterizes the GMC footnote as standing for the proposition that "[w]hen a facially neutral law has the effect of disproportionately burdening out -of-state interests, it can be difficult to determine whether the burden rises to t he level of discrimination against interstate commerce." Cloverland-Green Spring Dairies, Inc. v. Pa. Milk Mktg. Bd., 298 F.3d 201, 211 (3d Cir. 2002) (involving minimum wholesale milk price regulation having "the effect of protecting in-state businesses by eliminating a competitive advantage possessed by their out-of-state counterparts"). It appears that the footnote has not been taken up in any other published opinions to date.

issue there imposed a heightened disposal fee on interstate waste haulers as compared with intrastate waste haulers, thus discriminating against interstate haulers with respect to their ability to access in-state landfills. 511 U.S. at 99.

Instead of attempting to show that a particular market is at issue here, the Alliance's principal memorandum seems to draw clear distinctions between its industry and the Maine ELV industry, complaining that it is patently discriminatory to "tak[e] money from law-abiding out-of-state companies whose product is not inherently harmful, and giv[e] the money to in-state companies that might otherwise misuse the product and violate the law." (Docket No. 18 at 23.) However, the Alliance changes its tune in the opposition memorandum filed in response to the Commissioner's motion for summary judgment. In this memorandum, the Alliance argues that the Act has forced its members to enter the ELV industry by requiring them to set up consolidation centers to accept mercury switches. (Docket No. 26 at 4.) I find this argument unpersuasive. The Act does not force automobile manufacturers to enter the ELV industry, but requires them to pay a fee for mercury switch recovery and to take back those switches recovered by the automobile dismantlers. There is absolutely nothing in the facts to suggest that automobile manufacturers have become competitors in the ELV market. Rather, the facts reveal that some Alliance members are paying a fee for mercury remediation and are being forced to make arrangements for remittance of mercury switches in Maine. Although these activities may transpire within the all-encompassing parameters of interstate commerce, they have not created a market in which manufacturers compete with either dismantlers or consolidators. If the dormant Commerce Clause loomed over every interstate commercial relationship, as opposed to market, it would truly know no bounds. It is perhaps for this reason that the "competitors in a particular market" requirement is so appealing. It promises to provide one bright line limitation on the scope of the Commerce Clause.

Because the Maine ELV industry that the Alliance points to simply is not competing in any market or in any manner with automobile manufacturers, the Commissioner is likely entitled to summary judgment against the Commerce Clause claim. Nevertheless, I address the balance of the Alliance's argument because, arguably, the Pike undue burden test could be applied in this context.

C. The Act's Provisions Are Not Excessively Burdensome on Interstate Commerce.

Non-discriminatory and non-protectionist regulations that have indirect or incidental effects on interstate commerce are valid unless the party challenging the regulations can demonstrate that "the burden imposed on such commerce is clearly excessive in relation to the

putative local benefits." Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970). If one assumes that the Pike undue burden test can jump across markets, it does not appear that the financial and administrative burdens imposed on certain Alliance members are "clearly excessive" in relation to the local benefit.

In order to assess the burdens and benefits of the Act, the Court must resolve a minor skirmish about what benefits and what burdens may properly be placed on the scales. The Alliance urges that the Court must weigh in favor of Alliance members every foreseeable burden that might arise from the Act, including the hypothetical burden that would arise if similar legislation were enacted in other states, but may weigh in the State's favor only the benefits that arise from one isolated provision at a time. In the Alliance's words:

> There are only four aspects of L. D. 1921 under a Commerce Clause challenge in this case, so it is only the costs and benefits associated with those specific provisions that are genuinely at issue. Thus neither the costs nor the benefits of the provision that requires removal of mercury switches before a vehicle is recycled is properly part of the equation. Neither are the costs and benefits of the prohibition against the sale of new vehicles that contain mercury switches, nor the costs and benefits of requiring labels on vehicles with mercury components. . . . [N]one of them has any bearing on the issues the Court is called upon to decide.
>
> Instead, proper focus is on the costs [on] interstate commerce of the bounty, consolidation facility, protection of dealerships, and non-segregation of switches sections [in unison]. . . . .
>
> For commerce clause purposes, there is no benefit to weigh against these costs. Any constitutionally legitimate benefits of L. D. 1921 derive from parts of the law that are not challenged, such as the requirement to label vehicles with mercury components, and the requirement to remove mercury switches before a vehicle is recycled. . . . .
>
> Nor should the costs associated with L. D. 1921 be viewed in isolation. If one [s]tate may require manufacturers in Michigan, Japan, Germany and the United Kingdom to go into the recycling business and pay bounties, "so may other States." Edgar v. MITE Corp., 457 U.S. 624, 642 (1982).

(Docket No. 18 at 29-31; see also Docket No. 31 at 4.) This is not a fair statement of the law. Although there are numerous cases in which courts have found a specific regulatory provision to impose an excessive burden on interstate commerce without striking down the entire regulatory scheme, that does not mean that the Court must artificially isolate each of the challenged provisions and ignore its relationship to the larger regulatory scheme. Frankly, the Court cannot

meaningfully consider the relative burden or benefit of a particular provision without considering its relationship to the whole of the Act any more than it can evaluate the burden or benefit of the whole without appreciating the relationship among the individual provisions that comprise it. See, e.g., West Lynn Creamery, 512 U.S. at 199-200 & n.16 (concluding that a nondiscriminatory tax imposed equally on in-state and out-of-state milk producers became excessively burdensome on interstate commerce by virtue of a related provision that used the revenue from the tax to provide a subsidy to in-state producers).

In supposed support of its position that the Court should consider the kind of burden that might arise if other states enacted similar regulatory schemes, the Alliance cites Edgar v. MITE Corp., 457 U.S. 624 (1982). In that opinion the following quotation can be found : "[I]f Illinois may impose such regulations, so may other States." Id. at 642. However, in Edgar the Supreme Court dealt with a blue sky law that had "sweeping extraterritorial effect," essentially purporting to regulate securities transactions in domestic corporations occurring "wholly outside the State." Id. at 642 & 643. In this light, the Court's observation about the problems that would arise if other states followed suit served the purpose of illustrating the problem with regulations having extraterritorial effect: economic isolation or Balkanization. That concern is not at issue in this case. If other states were to follow Maine's lead on mercury switch recovery, the consequence would be akin to multi-state bottle bills, not the kind of interruption of interstate commerce that might arise if securities transactions could not be engaged in or if every state imposed its own unique regulatory scheme on interstate railroads.[18]

[18] Even if the theoretical costs of multi-state enactment could be incorporated into the Court's analysis, the question would still essentially be whether the cost of switch recovery is excessive in relation to the ameliorative effect of preventing mercury incineration or other release, whether on a per switch or aggregate basis, such as the Nationwide average cost per switch. Of course, prior to such an occurrence Congress might always preempt the field. New Hampshire Motor Transp. Ass'n v. Flynn, 751 F.2d 43 (1st Cir. 1994) is illustrative:

> [T]he truckers separately argue that if New Hampshire can impose [license fees for transporters of hazardous wastes] so can other states. If many or all states do so, the resulting fee system will greatly raise transport costs and seriously burden interstate commerce. [There is a concern that the] "burden of proof" rules mean that each state can charge an amount that cannot be *proved* excessive. The sum total of charges that cannot be *proved* excessive may well exceed the sum total of the *actual* cost of state services. Nonetheless, there is a conclusive answer to the argument here, for Congress has specifically delegated to the Department of Transportation ("DOT") the power to promulgate rules that preempt state law in this area. . . . Should the circumstance that the truckers fear come to pass, a remedy is close at hand. DOT can promulgate a regulation prohibiting or controlling the imposition of excessive license fees. Under these circumstances, there is no practical reason to fear significant state barriers to interstate commerce . . . .

Id. at 50.

1. Elaborating on the "so-called Pike undue burden test"

Before addressing the challenged provisions of the Act, Pike's undue burden standard deserves a little more explanation. The plaintiff in Pike, Bruce Church, Inc., was a farming operation that grew a substantial crop of particularly high-quality cantaloupes in Arizona that it shipped to California in bulk loads for processing and packaging. 397 U.S. at 139. Bruce Church shipped its cantaloupes to California in this fashion because it owned no packing sheds in Arizona that could process or pack its cantaloupes and was located in a remote part of Arizona, near the border with California, from which Arizona packing houses were not readily accessible. Id. Pursuant to Arizona 's Fruit and Vegetable Standardization Act, all cantaloupes grown in Arizona and destined for commercial sale were required to be "packed in regular compact arrangements in closed standard containers approved by the [state's official] supervisor." Id. at 138-39. The supervisor exercised his authority under the Act and effectively prohibiting Bruce Church from shipping its cantaloupes to its California packing shed by disapproving Bruce Church's use of "uncrated bulk loads" to transport the cantaloupes. Id. at 138. The Supreme Court found this order not to be patently discriminatory, presumably because it extended, at least in principle, to the entire in-state cantaloupe industry. But as a practical consequence of the prohibition, Bruce Church would have lost that year's anticipated crop and would have been required to invest in processing and packing facilities in Arizona because it did not otherwise have the means of packing cantaloupes in Arizona. Id. at 140. The Supreme Court struck down the order on a finding that it imposed a burden on interstate commerce that was "excessive in relation to the putative local goals." Id. at 142. As grounds for this conclusion, the Court observed that the cantaloupes were by nature interstate goods and the order effectively rerouted their journey through the channels of interstate commerce by requiring that they be processed and packed in Arizona. Id. at 141-42 ("[T]he application of the statute at issue here would require that an operation now carried on outside the State must be performed instead within the State so that it can be regulated there."); see also id. at 146 (describing the regulation as "a straightjacket . . . with respect to the allocation of [Bruce Church's] interstate resources"). In comparison to this burden on Bruce Church's interstate activities, the Court searched in vain for any appreciably weighty "putative local benefit." The Court observed, based in part on statements made by Arizona in its legal memoranda, that the Act had nothing to do with legitimate health and sanitation concerns, but with promoting and preserving "the reputation of Arizona growers by prohibiting deceptive packaging." Id. at 143. Although reasoning that this purpose was not illegitimate, the Court determined that it could not justify an order that forced Bruce Church to build and run a packing shed in Arizona just to ensure that Bruce Church's

high-quality produce would be labeled as a product of Arizona rather than California. Id. at 144-45. Importantly, Arizona's stated interest was not only particularly "tenuous," but the burden was especially odious as well, "[f]or the Court has viewed with particular suspicion state statutes requiring business operations to be performed in the home State that could more efficiently be performed elsewhere," id., or which "impose an artificial rigidity on the economic pattern of the industry, " id. at 146 (quoting Toomer v. Witsell, 334 U.S. 385, 404 (1948)). But this was not to say that such restrictions could never be maintained. Instead, "[s]uch an incidental consequence of a regulatory scheme could perhaps be tolerated if a more compelling state interest were involved." Id.

From Pike, two significant propositions flow. First, when it comes to the dormant Commerce Clause, health and safety regulations are more tenable than standard economic regulation. When these concerns are at issue, somewhat greater burdens may be placed on interstate commerce than might otherwise be acceptable. Id. at 143; see also GMC v. Tracy, 519 U.S. at 306 ("[L]egitimate state pursuit of such interests [is] compatible with the Commerce Clause, which was 'never intended to cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens, though the legislation might indirectly affect the commerce of the country.") (quoting Sherlock v. Alling, 93 U.S. 99, 103 (1876)); Huron Portland Cement Co. v. Detroit, 362 U.S. 440, 448 (1960) ("State regulation, based on the police power, which does not discriminate against interstate commerce or operate to disrupt its required uniformity, may constitutionally stand."). On the other hand, particularly suspect are regulations that require an industry to conduct its interstate business operations in any one state or which unduly waylay goods bound for interstate markets. Pike, 397 U.S. at 145; see also Foster-Fountain Packing Co. v. Haydel, 278 U.S. 1, 13 (1928) (invalidating Louisiana law meant to withhold Louisiana-caught shrimp from Mississippi processing plants for the purpose of benefiting Louisiana's domestic processing industry where shrimp were destined for interstate commerce).

2. The consolidation provision does not impose a clearly excessive burden on interstate commerce.

Pursuant to subsection 5(A) of the Act, certain Alliance members have been required to "establish and maintain consolidation facilities geographically located to serve all areas of the State to which mercury switches . . . may be transported." According to the Alliance, this requirement has forced its members "to open recycling businesses at two locations in Maine" and, thus, should be stricken down like the packing order at issue in Pike. (Docket No. 18 at 2, 4.) Contrary to the Alliance's rhetoric, the Act's consolidation provision does not force

manufacturers to "open recycling businesses" in Maine. As enforced, and as arranged by the manufacturers, certain preexisting businesses have been engaged to fulfill these consolidation obligations for a fee. Although the Act reads in terms of "establishing facilities" in Maine, in fact it requires only that switch consolidation take place in Maine.[19] But simply because certain manufacturers are forced to engage in activity in Maine that otherwise would not occur does not mean that interstate commerce has been unduly interfered with. Unlike Pike, the regulation at issue here does not require manufacturers to conduct in Maine any interstate commercial operations that they would otherwise conduct outside the state. Nor does it prevent the passage of interstate goods to market. The consolidation activity that certain manufacturers must now engage in is not a commercial endeavor that they would engage in elsewhere if permitted. Likewise, the mercury switches that are recovered from ELVs are not destined for any market.[20] They are simply stowaways on dismantled automobile hulks that would otherwise come to contaminate recycled metals, the atmosphere and land and water surfaces here and elsewhere. Because the consolidation provision simply does not disrupt interstate markets or the movement of goods destined for interstate markets, it does not warrant the kind of treatment given in Pike to the administrative order that would have required Bruce Church to build a packing plant in Arizona.

Finally, when one looks at the actual showing made by the Alliance, it becomes clear that the Alliance has fallen well short of demonstrating an excessive burden on interstate commerce. First, the Alliance's evidence of its members' costs is very rough. Not only are the costs estimated, but the evidence fails to break out the cost for compliance with the consolidation provision itself, as distinct from the cost of compliance with the bounty provision. Thus, the Court cannot meaningfully determine what burden the consolidation provision imposes. Furthermore, even if one credits the full, $200,000 "start up" estimate and $120,000 ongoing annual costs, these costs are shared by at least three major automobile manufacturers and are designed to facilitate a mercury remediation program that is far more meritorious than the "tenuous" objective undertaken by Arizona in the Pike case. Specifically, consolidation facilitates the remediation effort because it simplifies what dismantlers must do to obtain payment of the bounty by reducing the number of entities to which they must ship switches. This

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[19] In furtherance of this point, consider that t he Alliance has admitted that the "only burden" it complains of "is the automakers' cost of complying with the [Act]." (Plaintiff's Opp. St. of Mat. Facts, Docket No. 27, ¶ 48, admitting statement contained in Docket No. 38, ¶ 48.)

[20] At least, the Alliance has made no showing whatsoever in its summary judgment statements of material facts that the mercury switches it takes back are destined for any relevant market, such as a market in used mercury switches or the mercury recovered from its mercury switches . It would seem that the Alliance's case against the consolidation procedure would be strengthened if it could demonstrate that consolidation in Maine unnecessarily reroutes the switches from their intended market "destination."

simplification of the redemption process enhances the likelihood of dismantler compliance, without which the legislative scheme would not succeed. Consolidation also minimizes the number of establishments with respect to which the MDEP must exercise oversight and, by definition, minimizes the number of locations at which mercury switches will be stored.

3. The bounty provision does not impose a clearly excessive burden on interstate commerce.

Like the consolidation provision, the bounty provision does nothing to disrupt interstate markets or the movement of goods destined for interstate markets. It simply requires that certain manufacturers pay a bounty to subsidize the recovery of a toxic substance contained in their products so that it will not be released through incineration or other means. Nor does the bounty provision constitute a protectionist tariff. Although it requires that money be transferred from out-of-state businesses to in-state businesses, the requirement does not protect in-state business from competition but rather helps ensure the success of the mercury remediation effort. The bounty does nothing to alter competition in, or the access of either producers or consumers to, any particular market or product.

According to the Alliance, it is excessively burdensome on interstate commerce for the State to require an out-of-state business to pay money to an in-state business to carry out legal obligations previously imposed exclusively on the in-state business. (Docket No. 18 at 21-22). The Alliance believes that manufacturers should not be forced to bear such a burden when the State might instead police the remediation efforts of the 700 to 800 dismantlers in the State. (Id. at 24-26.) Although the parties dispute whether Maine law and regulations required scrap yards to recover mercury switches prior to the Act's passage, see 30-A M.R.S.A. § 3755-A(3)(H), I do not consider that dispute to be material. Certainly the Legislature is as free to reallocate burdens and responsibilities as it was to allocate them in the first instance. Usery v. Turner Elkhorn Mining Co., 428 U.S. 1, 16, 49 L. Ed. 2d 752, 96 S. Ct. 2882 (1976) ("[L]egislation readjusting rights and burdens is not unlawful solely because it upsets otherwise settled expectations. This is true even though the effect of the legislation is to impose a new duty or liability based on past acts."). Our common law landscape is littered with reallocated legal obligations. Consider, for starters, joint and several liability, indemnification and contribution, respondeat superior and vicarious liability. In any event, even if we assume that interstate commerce is at stake, the obvious answer to the Alliance's challenge is that it is not excessively burdensome to impose on those who placed mercury switches in interstate commerce a reasonable financial obligation to help ensure that the encapsulated mercury does not caused harm to public health or the environment. Although the Alliance concedes that the recovery and consolidation initiatives are

laudable, they essentially believe that fairness requires the burden to be carried by Maine taxpayers and the so-called ELV industry. That the Legislature chose to encourage dismantler compliance with carrots rather than sticks is perfectly reasonable given the large number of dismantlers distributed throughout the state. Whatever fairness may require, the dormant Commerce Clause does not preclude the bounty scheme per se. Finally, the Alliance ultimately fails to make any factual showing in support of its conception of fairness. What is offered is that the manufacturers estimate the cost of compliance to amount to roughly $200,000 in start up costs and projected annual costs of $120,000.[21] In my view, this simple showing falls short of demonstrating a clearly excessive burden in relation to the local benefit of recovering mercury switches because there are insufficient facts for the Court to make a finding of "excessiveness." Cf. N.H. Motor Transp. Ass'n v. Flynn, 751 F.2d 43, 48 (1st Cir. 1984) ("[T]he burden of proving 'excessiveness' falls upon the [challengers], not the state. . . . The [challengers] are responsible for producing a record sufficiently specific and detailed to allow the finding that they seek."). Of course, in the end, the Commerce Clause does not exist to protect the manufacturers' corporate coffers, but to protect "markets and participants in markets." GMC v. Tracy, 519 U.S. at 300; see also Exxon Corp. v. Governor of Maryland, 437 U.S. 117, 127 (1978) ("[T]he [Commerce] Clause protects the interstate market, not particular interstate firms."). Moreover, it is not unconstitutional for the State "to protect its residents' pocketbooks as well as their environment." Philadelphia v. New Jersey, 437 U.S. at 626.

4. The provision "protecting" domestic automobile dealerships does not impose a clearly excessive burden on interstate commerce.

The Alliance contends that it offends the dormant Commerce Clause for the State to prevent manufacturers from using their domestic dealerships as consolidation facilities. The Alliance's explanation for this contention is that it constitutes protectionism, there being "no technical reason why dealerships cannot serve as consolidation centers." (Docket No. 18 at 27.) This argument is not productive because the consolidation provision imposes a take back obligation on manufacturers, it does nothing to protect Maine dealerships from their interstate competitors. Just as there is a rational basis for imposing this obligation on the manufacturing industry, there is a rational basis for ensuring that the obligation is not pawned off on the manufacturer's local dealerships. Furthermore, it is rational for the State to delimit the number and nature of consolidation facilities to streamline the handling of mercury switches, to facilitate state oversight of the program and because it is perfectly reasonable to "consolidate"

[21] See also Plaintiff's Reply Memo., Docket No. 31, at 1 ("[T]he parts of [the Act] at issue in this case are not about mercury, they are about money.").

consolidation facilities. In any event, the Alliance has not shown that two dealerships exist that are willing to serve as the manufacturers' regional consolidation centers on a more cost effective basis. Had it made such a showing, then perhaps it could have articulated why this provision does not advance any legitimate objective and is excessively burdensome, in context. Because the record is devoid of such evidence, there is no need to entertain that possibility.

5. The "non-segregation" provision does not impose a clearly excessive burden on interstate commerce.

The Alliance tersely states that the no n-segregation provision is "a final example of the ways in which [the Act] is skewed in favor of local interests." (Docket No. 18 at 29.) This provision enables dismantlers to collect and ship switches in one container. This aspect of the Act is not burdensome on interstate commerce for the reasons already stated. Moreover, non-segregation of mercury switches might rationally facilitate the dismantlers' handling and shipping of mercury switches. Additionally, the concern raised by the Alliance, allocation of costs among manufacturers, has been addressed through regulatory approval of the manufacturers' requirement that dismantlers label individual switches with the vehicle identification number of the originating automobile. Finally, the Alliance has not presented any facts to quantify how this particular provision contributes to the cost of manufacturer compliance. There being no costs on record, it is impossible to determine that compliance is excessively burdensome.

6. The putative local benefits of the Act are appreciable.

Maine has sought to remove a toxic substance from the ELV waste stream in order to prevent its release from upwind smokestacks and eventual deposition in Maine. The Alliance has not challenged Maine's assertion that upwind release of mercury results in appreciable mercury deposition in Maine or that the burden placed on manufacturers is wholly out of proportion to the degree of harm presented. Each of the challenged provisions appears to have a rational relationship to advancing the mercury remediation effort, although some more clearly than others. The bounty provision advances the State's mercury switch abatement objective most fundamentally by providing a financial incentive for dismantlers to remove, label and package the switches and to then ship the switches to a consolidation facility. The consolidation and non-segregation provisions also advance the remediation objective by streamlining the redemption procedures that dismantlers must follow, further increasing the likelihood of dismantler compliance. The consolidation provision also ensures that the recovered switches are

handled in a manner that complies with Maine's Universal Waste Rules.[22] Finally, the no dealership provision ensures that manufacturers actually bear the primary financial obligations that the Legislature determined they, in fairness, ought to bear. It is not illegitimate for the Legislature to take this additional step to protect dealerships from a burden that they determined ought to be born by manufacturers. The dormant Commerce Clause was "never intended to cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens, though the legislation might indirectly affect the commerce of the country." Sherlock, 93 U.S. at 103. In the absence of preemptive federal regulation, Maine's mercury switch Recovery scheme is consistent with dormant Commerce Clause jurisprudence.

II. DUE PROCESS AND EQUAL PROTECTION

The Alliance next challenges the provisions of the Act under the Fourteenth Amendment. In the context of economic regulation, and in the absence of a concern over "fundamental rights," this challenge boils down to an equal protection claim subject to a "rational basis" analysis. San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 40 (1973). Thus, to overcome the Alliance's challenge, it need only appear that "there is a plausible policy reason for the classification, the legislative facts on which the classification is apparently based rationally may have been considered to be true by the governmental decisionmaker, and the relationship of the classification to its goal is not so attenuated as to render the distinction arbitrary or irrational." Nordlinger v. Hahn, 505 U.S. 1, 11 (1992) (citing Cleburne v. Cleburne Living Ctr., Inc., 473 U.S. 432, 446 (1985), Minnesota *v.* Clover Leaf Creamery Co., 449 U.S. 456, 464 (1981), and United States R.R. Ret. Bd. v. Fritz, 449 U.S. 166, 174, 179 (1980)).[23] According to the Alliance, because certain provisions in the Act serve the purpose of protecting domestic industries from certain financial and administrative burdens under the regulatory scheme, the Court should infer that these same burdens were relegated to manufacturers "solely because of their residence." (Docket No. 18 at 33 (quoting Metropolitan Life Ins. Co. v. Ward, 470 U.S.

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[22] At the time the Act was passed, universal waste consolidators of mercury -laden products already operated in Maine and were managing such products in accordance with Maine's Universal Waste Rules. (Docket No. 38, ¶¶ 71, 72.)

[23] Perhaps the most forceful recitation of this standard is in Beach Communications:

> Whether embodied in the Fourteenth Amendment or inferred from the Fifth, equal protection is not a license for courts to judge the wisdom, fairness, or logic of legislative choices. In areas of social and economic policy, a statutory classification that neither proceeds along suspect lines nor infringes fundamental constitutional rights must be upheld against equal protection challenge if there is any reasonably conceivable state of facts that could provide a rational basis for the classification. Where there are "plausible reasons" for Congress' action, "our inquiry is at an end."

508 U.S. at 313-14 (citations omitted, quoting United States R.R. Ret. Bd. v. Fritz, 449 U.S. 166, 179 (1980)).

869, 880 (1985)). This simply does not follow. It is far more "plausible," Nordlinger, 505 U.S. at 11, that the primary burden was imposed on manufacturers in recognition of the fact that the need for a mercury switch recovery program existed solely by virtue of the manufacturers' incorporation of these mercury-laden components in their automobiles for roughly ten years after the industry's cognizance of the mercury disposal problem. See footnote 2, supra. This "classification" does not concern fundamental rights and it reasonably sets apart manufacturers for different treatment from members of the "ELV industry" based on factors the Legislature could "rationally have . . . considered to be true." In addition to the plausible determination that manufacturers ought to carry the primary burden due to their decision to use the switches, the different treatment of manufacturers and dismantlers is rational based on the perceived need to simplify the burdens placed on dismantlers in order to encourage compliance. In other words, it was not irrational for the Legislature to conclude that the Alliance's recommended alternative of regulatory enforcement would not have been workable, or as workable, given the number and geographical distribution of dismantlers in Maine. Of the 185 people within the MDEP's Bureau of Remediation and Waste Management, only three spend a portion of their time implementing the Act. (Docket No. 37, ¶ 10 Supplemental; Docket No. 32, ¶ 10.) Finally, none of the individual provisions is "so attenuated" in relation to the mercury switch remediation effort to be "arbitrary or irrational." Nordlinger, 505 U.S. at 11. The "undue burden" discussion of the dormant Commerce Clause claim already establishes the relationship each provision has to the overall legislative agenda and need not be rehashed here. Even the non-segregation provision, which least advances the objectives of the Act due to its exceedingly picayune nature, is rationally related to the Legislature's goal of ensuring dismantler compliance. Of course, the Alliance's challenge of this particular provision is picayune, too. The record reflects that the MDEP has approved the manufacturers' requirement that dismantlers label each mercury switch with the originating motor vehicle's identification number. Nor is there any factual showing with respect to how this minor inconvenience impacts the asserted costs of complying with the Act.

Conclusion

For the reasons stated herein, I **RECOMMEND** that the Court **GRANT** Defendant's Motion for Summary Judgment (Docket No. 16) and **DENY** Plaintiff's Motion for Summary Judgment (Docket No. 18). I further **DENY**, without prejudice, the Motion to Exclude filed by Defendant and Amicus Plus (Docket No. 15).[24][24]

SO ORDERED.

NOTICE

A party may file objections to those specified portions of a magistrate judge's report or proposed findings or recommended decisions entered pursuant to 28 U.S.C. § 636(b)(1)(B) for which de novo review by the district court is sought, together with a supporting memorandum, within ten (10) days of being served with a copy thereof. A responsive memorandum shall be filed within ten (10) days after the filing of the objection. Failure to file a timely objection shall constitute a waiver of the right to de novo review by the district court and to appeal the district court's order.

July 17, 2003

Margaret J. Kravchuk
United States Magistrate Judge

[24] The Defendants filed a Daubert motion seeking to exclude the testimony of Gregory J. Dana and Casimer Andary , two employees of the Alliance whom the Alliance designated as experts , but who would provide fact testimony as well as opinion testimony. I have not relied on the Andary deposition in making this Recommended Decision. The portions of the Dana testimony I have incorporated, which concerns the Alliance's cost estimates, is in my estimation admissible fact evidence, the Commissioner's objection going only to weight. If this matter were to proceed to trial or other portions of the testimony of these "experts" were deemed to be relevant, the Court could revisit the various arguments made by the parties in relation to qualifications, specialized knowledge, reliability and relevance.

UNITED STATES DISTRICT COURT

DISTRICT OF MAINE

ALLIANCE OF AUTOMOBILE MANUFACTURERS,	)	
Plaintiff	)	
v.	)	Civil No. 02-149-B-W
MARTHA KIRKPATRICK,	)	
Defendant	)	

ORDER AFFIRMING THE RECOMMENDED DECISION OF THE MAGISTRATE JUDGE

On July 17, 2003, the United States Magistrate Judge filed with the Court her Recommended Decision on the parties' cross-motions for summary judgment, recommending that the Court deny the Plaintiff's Motion and grant the Plaintiff's Motion. On July 31, 2003, the Plaintiff filed its Objection to the Recommended Decision and a Motion Oral Argument on the Objection. On August 18, 2003, the Defendant and the *amici curiae* parties each filed a separate Response to the Objection and, on August 20, 2003, the Defendant and the *amici curiae* parties filed a joint opposition to the Plaintiff's Motion for Oral Arguments. The Plaintiff filed its reply to the responses on August 26, 2003.

The Plaintiffs Motion for Oral Argument is DENIED. The parties' comprehensive memoranda provide an ample basis upon which to decide the Objection. I have reviewed and considered the Magistrate Judge's Recommended Decision, together with the entire record; I have made a de novo determination of all matters adjudicated by the Magistrate Judge's Recommended Decision; and I concur with the recommendations of the United

States Magistrate Judge for the reasons set forth in her Recommended Decision, and determine that no further proceeding is necessary.[25,26]

1. It is ORDERED that the Plaintiff's Motion for Oral Arguments is DENIED;
2. It is further ORDERED that the Recommended Decision of the Magistrate Judge is AFFIRMED; and,
3. It is further ORDERED that the Plaintiff's Motion for Summary Judgment is DENIED and the Defendant's Motion for Summary Judgment is GRANTED.

/s/ John A. Woodcock, Jr.
JOHN A. WOODCOCK, JR.
United States District Judge

Dated this 17th day of February, 2004.

[25] The Court has carefully reviewed those portions of the Recommended Decision that the Plaintiff argues contain
either omissions of its statements of material facts or erroneous restatements of its statement of material facts. The
Court concludes the alleged discrepancies are either immaterial or erroneous.

[26] The Magistrate Judge eschewed legislative history in favor of the plain language of the statute and instructed the
Plaintiff, to the extent that it disagreed with her decision, to explain the materiality of such legislative history in its
Objection to this Court. The Plaintiff has shown neither ambiguity in the language of the statute nor the materiality
of the legislative history to the outcome of the case.

APPENDIX F

MERCURY SWITCH DATA COLLECTION PILOT PROJECT

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SCIENCE, RESEARCH AND TECHNOLOGY
P.O. Box 409
TRENTON, NEW JERSEY 08625-0409

FINAL REPORT

MARCH 24, 2004

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Disclaimer: The views and ideas expressed in this report are those of the author and do not necessarily reflect the views and policies of the New Jersey Department of Environmental Protection.

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MERCURY SWITCH
DATA COLLECTION PILOT PROJECT

EXECUTIVE SUMMARY

The mercury switch data collection pilot project was developed as part of the State of New Jersey's efforts to reduce the amount of mercury in the environment. The goals were to determine the effectiveness of an End-of-Life Vehicle switch removal program and estimate the costs in order to develop and implement a cost effective and reliable program.

Five (5) vehicle dismantling and scrap processing/auto wrecking facilities participated in the pilot project which resulted in 358 vehicles being prepared for shredding to produce 'low mercury content shredded scrap'. As part of an associated effort, the resulting scrap was melted at a steel mill for voluntary stack testing to observe the impact on mercury emissions.

It was learned that on average, a vehicle contained 0.8 mercury convenience lighting switches. Each mercury switch contained an average of 1.2 grams of mercury.

Although it takes less than 1 minute to remove the switch from the vehicle, it takes 2 to 3 minutes to examine a vehicle hood and trunk to determine the presence or absence of convenience lighting switches. This examination could be performed in conjunction with other inspections performed by auto dismantlers and auto wreckers. It takes approximately 1 minute to document the vehicle and switch removal data. Total time required per mercury switch removed is less than 5 minutes. Time is dependent upon the condition of the vehicle at the time of inspection.

Removal of all convenience lighting switches with the exception of obvious mechanical units is required, since lists of vehicles purported to contain or not contain mercury switches are unreliable. Only Toyotas and Hondas can be eliminated from the inspection process. The mercury containing bullets or capsules should be removed from the switches prior to shipping them off-site for processing under the Universal Waste Rules. Removal of the capsules to the greatest extent possible will minimize the cost of handling and processing of the mercury switches.

The total cost of mercury switch removal, handling, transportation and proper disposal is estimated to be $3.00 per switch. On this basis, a switch removal program in New Jersey would have an estimated cost of $1.5 million annually, based on approximately 500,000 vehicles shredded in the state annually. Mercury convenience lighting switches will be present in end-of-life vehicles for at least the next 15 years.

Preliminary data, from the associated effort involving testing of air emissions from a steel mill, suggest that removal of mercury switches from vehicles prior to shredding results in a reduction in mercury emissions of approximately 50 percent.

It is desirable that a switch removal program be implemented on a regional basis due to the significant amount of interstate commerce involved in the handling and processing of end-of-life vehicles, as well as the marketing of shredded scrap.

MERCURY SWITCH DATA COLLECTION PILOT PROJECT

1.0 Background

The project was developed as part of the State of New Jersey's efforts to reduce the amount of mercury in the environment. The goals of the project include determining the effectiveness of a switch removal program and estimating the cost of such a program. Such a program would collect mercury-containing switches from end of life vehicles (EOLV's) in order to maximize the amount of mercury removed from scrap vehicles prior to processing into marketable raw material for use by steel mills and foundries.

It has been estimated that 8.8 to 10.2 metric tons of mercury are contained in scrap autos recycled in the US annually.[1] The primary source of mercury is in convenience lighting switches located in the trunks and hoods of many vehicles. Due to the fact that most mercury switches contain mercury in small steel canisters or 'bullets' within them (Figure 1), it is believed that during the shredding and magnetic separation process, most of the mercury 'bullets' are collected as part of the shredded steel scrap. When the scrap steel is melted at the steel mill or foundry, the mercury is vaporized and portions not collected by existing air pollution control devices are emitted as airborne contaminant. A small number (estimated at less than 2 percent) of mercury convenience lighting switches contain mercury in a small glass vial (Figure 2) which is likely broken in the shredding process, releasing the mercury to the waste stream produced by the shredding facility.

Steel mills and foundries which utilize shredded steel scrap as a portion of the raw material charge are believed to be among the largest point sources of mercury emissions in New Jersey. The NJ Mercury Task Force in 2002 estimated that approximately 1000 pounds of mercury are emitted annually from the melting of shredded scrap in New Jersey.

A few programs currently exist in the U.S. to encourage removal and proper handling of automobile mercury switches. Maine, Michigan, Minnesota, New York, Vermont and Connecticut have programs which have initiated outreach efforts, developed educational materials and have participation from associations representing appliance and automobile recyclers. However, lack of economic incentives have resulted

in limited effectiveness in collecting mercury. Automotive recyclers operate on low margins and will not voluntarily undertake the collection and disposal of mercury switches.

The purpose of the Mercury Switch Data Collection Pilot Project is to obtain data and information necessary to develop and implement a cost-effective and reliable program to remove mercury switches from end-of-life vehicles that maximizes the amount of mercury removed.

2.0 Overview of Automobile Recycling and Mercury Switch Removal Programs

Automobile recycling in New Jersey is accomplished primarily through the activities of several hundred auto dismantlers and recyclers in conjunction with the seven (7) scrap metal shredding facilities located throughout the state. Some vehicles are processed and handled by scrap processing facilities which only prepare the end-of-life vehicles for shredding, no parts are removed for resale.

The bulk of the vehicle dismantling and recycling facilities are small businesses with 10 or fewer employees. Several hundred of these facilities operate in New Jersey, many are members of the Automotive Recyclers Association of New Jersey (ARA). Such facilities with a Standard Industrial Classification (SIC) Code of 5015 (North American Industry Classification System Code (NAICS) 421140) are primarily engaged in the dismantling of motor vehicles for the purpose of selling parts. Once all the parts with significant resale value are removed from an end-of-life vehicle, the remaining hulk is prepared for the scrap metal shredder. Such processing includes removal of the battery, fluids and CFC's. The hulk is usually crushed or flattened for volume reduction for shipment to the shredder.

Some scrap processors/auto wreckers only prepare end-of-life vehicles for shredding, removing the battery and draining fluids, followed by volume reduction for shipment to a shredding facility. Several dozen of these facilities operate in New Jersey, many are members of the Institute of Scrap Recycling Industries (ISRI). Such facilities have a Standard Industrial Classification Code of 5093, North American Industry Classification System Code of 421930. This group is defined as establishments engaged in wholesaling scrap from automotive, industrial and other recyclable materials and includes auto wreckers primarily engaged in dismantling motor vehicles for the purpose of wholesaling scrap.

Vehicle dismantling and recycling facilities may process from several dozen to several hundred end-of-life vehicle hulks for delivery to the shredder per month. Scrap processing/auto wrecker facilities may process from a dozen to several hundred end-of-life vehicles daily.

The seven shredding facilities located throughout New Jersey (Table 1) have processing capacities ranging from 25 to more than 100 cars per hour. Most of the

shredding facilities accept scrap vehicles from out-of-state as well. Automobiles are accepted from New York, Connecticut, Pennsylvania, Delaware and Maryland.

TABLE 1

SCRAP METAL SHREDDING FACILITIES IN NEW JERSEY

Camden Iron & Metal Co.
Camden, Camden County

Cumberland Recycling of South Jersey
Millville, Cumberland County

Hugo Neu Schnitzer East
Jersey City, Hudson County

Mercer Recycling
Ewing Township, Mercer County

Metal Management Northeast, Inc.
Newark, Essex County

Parkway Iron & Metal Co.
Clifton, Passaic County

Trenton Iron & Metal Corp.
Trenton, Mercer County

The shredder produces a high quality steel scrap product which is sold in a worldwide market for use by steel mills and foundries. The shredded steel product amounts to 65 to 70 percent by weight of the scrap material input to the shredder. A byproduct of the shredding process is a mixed non-ferrous metals concentrate, known as Zorba, which is sold for separation, recovery and recycling of the aluminum, copper, zinc and stainless steel content. This product amounts to 5 to 10 percent of the scrap input to the shredder. Finally, the Auto Shredder Residue (ASR) or 'fluff' as it is often called is considered a residual or ID 27 waste which is disposed in sanitary landfills. Such waste material amounts to approximately 25 percent by weight of the processed end-of-life vehicle hulk. Efforts are underway to decrease the amount of ASR requiring disposal

through the recovery and recycling of various plastics and other components. At present, ASR is often utilized as alternative daily cover at landfills accepting it for disposal.

On the basis of industry data reported to NJ DEP, approximately 500,000 vehicles are shredded annually in New Jersey. This results in production of approximately 400,000 gross tons of shredded steel product and approximately 165,000 tons of ASR from the processing of vehicles. Shredders also process 'light iron' which consists of household white goods, appliances, and other light gauge steel scrap e.g. steel shelving, file cabinets, etc. The typical shredding facility processes 55 to 60 percent vehicles and 40 to 45 percent light iron.

As discussed previously, it is believed that the bulk of the mercury switches are collected with the shredded steel product due to the fact that in most switches, the mercury is contained in small steel 'bullets' which are readily attracted by a magnet. Recovery and cleaning of the shredded steel scrap is accomplished primarily by magnetic separation. Some portion of the mercury switches would remain within the ASR due to the non-magnetically attracted plastic housings, which may not be destroyed in the shredding process. Also, certain mercury switches, primarily those found in Volvo vehicles contain mercury in a glass tube which is likely destroyed in the shredding process, releasing the metallic mercury to the 'fluff'.

In order to efficiently remove mercury switches prior to the shredding process, removal must occur at the auto dismantler/recycler or the scrap processing yard prior to crushing or flattening for shipment to the shredder.

Studies[2] have indicated that 99 percent of the mercury in vehicles is contained in switches. Of the vehicles containing mercury, the convenience light switches account for 87 percent of the total mercury, while antilock brake system (ABS) switches account for 12 percent.[3] Therefore, removal of the mercury convenience lighting switches has the potential to substantially reduce mercury emissions at steel mills and foundries. If certain readily accessible ABS switches are included in the program, such as those contained in Chrysler and Ford products, potential emissions reductions are greater. Figure 3 shows a typical Chrysler product ABS switch containing 3 'bullets'.

Several states have implemented mercury switch removal programs. Maine implemented a mandatory program effective January 1, 2003, requiring automakers to

establish and maintain consolidation facilities throughout the state to which mercury switches removed may be transported by persons performing removal. The auto manufacturers pay at least $1.00 per switch as partial compensation for removal, storage and transportation of the switches. The Maine Department of Environmental Protection has prepared an "Auto Dismantlers Guide to Recycling Mercury Switches and Mercury Lamps" last revised in August 2003, which provides excellent guidance for the location and removal of convenience lighting switches.

The State of Minnesota requires vehicle salvage facility operators to make a good faith effort to remove mercury switches from motor vehicles before they are crushed.

Wisconsin encourages removal of mercury switches and has prepared education and information assistance documents.

Michigan has conducted a study on mercury switch removal and is developing a removal program.

Connecticut has prepared and issued an "Auto Recycling Industry Compliance Guide, " dated January 2004 which provides guidance regarding the proper removal and handling of vehicle convenience lighting switches.

The US Environmental Protection Agency has drafted National Emission Standards for Hazardous Air Pollutants from Iron and Steel Foundries (40 CFR Part 63, Subpart EEEEE) which address mercury emissions as one of the hazardous air pollutants(HAP's). As approved, but not yet adopted, the standard would mandate Work Practice Standards for all iron and steel foundries in the U.S. that meet the Clean Air Act definition of Major Source of Hazardous Air Pollutants. The Work Practices include the purchase of only 'Certified Scrap'-from which all known mercury switches were removed, or the non-use of automotive scrap. As a result, scrap suppliers would be required to remove accessible mercury convenience lighting switches from the trunks and hoods of any automobile bodies contained in the scrap and certify removal in order to supply scrap to facilities affected by the rule. Scrap purchasers would be responsible for inspecting the scrap supply to assure compliance with the requirements. It is unclear as to the timing of regulation adoption; publication in the Federal Register, and therefore promulgation is pending.

It should be noted that the NJ DEP has requested the US EPA to expand the rule to include all facilities which melt vehicle scrap in addition to those considered to be "major sources" as defined by the Clean Air Act.

On December 10, 2003, NJ DEP Division of Air Quality released proposed rules for Control and Prohibition of Mercury Emissions for Iron and Steel Melters in New Jersey. Such proposed rules were published in the New Jersey Register on January 5, 2004 for public review and comment. The public comment period ended March 5, 2004. Final rules are expected to be adopted mid-2004.

The proposed New Jersey Rule would require a 75 percent reduction of mercury emissions by iron and steel melters within 5 years or achievement of an emission rate limit for mercury per ton of steel/iron produced. The proposal would require Work Practice Standards very similar to those envisaged by the approved but not adopted Federal Regulations. Mills in New Jersey would be required to implement source reduction of mercury which could include purchasing and melting only scrap that has had mercury switches removed. Inspection and Quality Control/Quality Assurance would be required. A mercury minimization plan would be prepared by each scrap melting facility for review and approval by NJ DEP within 1 year of the effective date of the new rules. Such plan would describe the inspection and quality control/quality assurance program to assure mercury switch removal from the scrap.

The proposed rules will impact iron and steel melters as well as the nearly 300 auto dismantlers, scrap processing and auto wrecking facilities in New Jersey and numerous out-of-state facilities which supply scrap vehicles or shredded scrap to facilities in New Jersey.

3.0 Description of New Jersey Pilot Project

During early 2003, four (4) automobile dismantling and recycling yards, all members of ARA-NJ were selected to participate in the project. The facilities, all having NAICS Code 421140, were as follows:

First Class Auto Salvage
Hamilton Township, Mercer County

Lafayette Salvage, Inc.
Lafayette Township, Sussex County

North Jersey Auto Wreckers
Byram Township, Sussex County

Price Auto Wreckers, Inc.
Bridgewater Township, Somerset County

In addition, a scrap processor/auto wrecking facility, NAICS Code 421930 was selected for participation:

Noble Street Metals
Division of Hugo Neu Schnitzer East
Newark, Essex County

The five (5) facilities participated in the removal/recovery of trunk and hood convenience light switches from end-of-life vehicles on a pilot basis. In addition, removal/recovery of ABS switches from several 4-wheel drive Sport Utility Vehicles was accomplished. Data was acquired regarding mercury switch location and removal.

As a result of the pilot project, 358 vehicles (a total of 422.95 Gross Tons)[4] were prepared for shredding so that nearly 300 Gross Tons of 'low mercury content shredded scrap' could be prepared for melting and stack emission testing at a New Jersey steel mill. Preparation of the vehicles took place during May, June and July 2003. It should be noted that 100 percent of the scrap material sent to the shredder was vehicle scrap, no white goods were included.

Shredding of the 'mercury switch-free' vehicles was conducted at the Claremont Terminal Facility of Hugo Neu Schnitzer East (HNSE), Jersey City, Hudson County on July 30, 2003. As a result, 268.64 Gross Tons of shredded steel was shipped to the steel mill on October 4 and 6, 2003 for melting as part of the associated effort.

The associated melting and stack emissions testing effort was conducted at the Gerdau-Ameristeel, Sayreville Steel Mill, Sayreville, Middlesex County, New Jersey on November 5 and 6, 2003.

An instruction/guidance document, together with a data collection form was prepared and provided to all participating facilities (Appendix A). In addition, each facility was provided with information regarding the Universal Waste Rules as they relate to mercury switches (Appendix B) together with a properly labeled Universal Waste Container for use in storing recovered mercury switches.

A Quality Control/Quality Assurance Program was implemented to assure removal of the mercury switches from the pilot project vehicles. Such program involved the review of the data collection form, counting the switches collected and comparing that number to the total indicated on the data forms. Finally, on the order of 10 to 20 percent (varying by processing facility) of the prepared vehicles were inspected prior to crushing or shredding to be certain that convenience lighting switches had actually been removed.

Once the scrap automobiles had been shredded, the shredded steel product was stored in a separate location away from other shredded scrap on paved surface and contained away from other activities. The shredded scrap was shipped to Gerdau Ameristeel in Sayreville by truck and stored in a separate, secure area while awaiting use during the stack testing event.

Figures 5 through 18 document the pilot program chronology.

Stack testing at Gerdau-Ameristeel, Sayreville involved three (3) replicate runs in accordance with NJ DEP approved test protocol utilizing 'normal' scrap charges which included shredded scrap procured through routine scrap purchasing procedures. Three (3) replicate runs followed, utilizing the 'low mercury content shredded scrap'. In both cases, the shredded scrap was approximately 33 percent by weight of the total scrap metal charged to the furnace.

Results of the stack testing conducted October 22 and 23, 2003 (Normal Scrap Stack Test) and November 5 and 6, 2003 (using Low Mercury Content Shredded Scrap) indicated a 50 percent mercury emissions reduction on both a "pounds per hour" and

"pounds per ton of billet steel produced" basis. The results of the associated stack test effort are summarized in Table 2.

TABLE 2

STACK TEST DATA SUMMARY[5,6]

Scrap Charge(% by Weight)	10/22 & 10/13/03	11/5 & 11/6/03
Heavy Melt Scrap(HMS)	39.0	43.0
Plate & Structural(P&S)	13.3	12.7
Shredded Scrap	32.2	33.7
Municipal Scrap	5.0	0
Other(Turnings, Cast Iron, In-Plant Scrap)	10.3	10.7

Mercury Emissions(Average)	10/22 & 10/13/03	11/5 & 11/6/03
pounds/hour	0.106	0.0523
Pounds/ton of billet steel	0.00095	0.00051

NOTE: Results presented are averages of the three (3) replicate runs conducted.

The results of emission testing are positive and indicative that removal of mercury switches has an impact on steel mill stack emissions. On a parallel track, the ASR produced during the shredding of the pilot project vehicles was sampled and tested for total mercury content. Three (3) random grab samples of ASR were taken on July 30, 2003 at the conclusion of the shredding run and shipped to the Washington Group Environmental Laboratory (NJ DEP ID #PA343). The samples were composited into one (1) sample at the laboratory. Total mercury content was determined to be 1.01 mg/kg. The laboratory report is included in Appendix D.

During October 2003, Hugo Neu Schnitzer East had obtained and submitted ten (10) grab samples of ASR produced during normal operations to a laboratory for total mercury analysis. The average mercury content was found to be 3.62 mg/kg with a range of 0.96 to 8.06 mg/kg.[7]

Mercury content of the ASR may be a surrogate for mercury content in the steel scrap, or at least an indicator of steel scrap mercury content.

4.0 Data Collection Summary

The five (5) facilities participating in the project were instructed as follows:

1. Remove all trunk and hood lighting switches and place them in the Universal Waste Container provided. DO NOT TAKE THE SWITCH ASSEMBLIES APART!

2. Record data for each vehicle on the Data Forms provided.

3. Mark the cars from which switches have been removed with a spray paint marking.

4. Store the Universal Waste Container until picked up by NJ DEP personnel.

To initiate the pilot project field work during March 2003, members of the project management team visited one of the participating facilities to randomly inspect cars to locate hood and trunk convenience lighting switches and remove them. The cars inspected were selected on the basis of ease of access and makes/models suspected of containing convenience light switches. A total of 13 vehicles were inspected and a total of 12 switch assemblies were located and removed. Table 3 documents the initial vehicles inspected.

It was learned that the primary tools required were a screw driver or pry bar, small socket wrench and a pair of wire cutters. Switches required less than 5 minutes each to locate and remove.

The other four (4) participating facilities were each visited, instructions and data forms provided to management personnel.

It was observed that after experiencing a learning curve for locating and removing convenience lighting switch assemblies, actual removal time averaged less than 1 minute per switch. However, the time required to inspect the hood and trunk of each vehicle to determine the presence or absence of switches was approximately 2-3 minutes per vehicle. Times varied, since it was not always easy to open the hood or trunk lids. In some cases trunks were shut and locked and the vehicles did not always have keys present. When this occurred, a forklift or other piece of heavy equipment was required to

pry open the trunk lid to permit inspection. Data recording required approximately 1 minute per vehicle.

TABLE 3
VEHICLES INSPECTED – 3/26/2003

1998	Lincoln Continental	No Switches
2000	Ford Taurus	No Switches
1992	Mercury Grand Marquis	Hood & Trunk Switches
1992	Mercury Sable	Hood & Trunk Switches
1994	Saturn	No Switches
1995	Monte Carlo	No Switches
1989	Corsica	Hood & Trunk Switches
1996	Chrysler Stratus	Trunk Switch
1993	Chrysler Dynasty	Trunk Switch
1987	Volvo 740 Turbo	Hood & Trunk Switches
2000	Olds Bravada	Hood Switch
2001	Chevrolet Blazer	Hood Switch
1994	Ford Explorer	No Switches

Copies of the Field Data Sheets and field data as completed by the facilities are included in Appendix C.

As a result of the pilot program, 358 vehicles were examined and switch assemblies removed. Average number of switches located and removed were 0.8 per car.

The Quality Control/Quality Assurance program involved members of the project management team visiting the participating facilities, to randomly inspect vehicles to verify mercury switch removal prior to crushing of the vehicles. Further, vehicles not crushed prior to shipment to the Hugo Neu Schnitzer East Claremont Facility for shredding were inspected at the Claremont Facility prior to shredding on July 30, 2003. A total of 14 vehicles were inspected immediately prior to shredding. Nine (9) of the vehicles had no switches, the other 5 vehicles had switches, yielding a total of 9 convenience lighting units. The 14 vehicles inspected, represented a total of 101 vehicles which had not been inspected prior to shipment to the Claremont Facility. These facilities had reported removal of 76 switch assemblies from the vehicles prior to shipment.

As a byproduct of the Quality Control/Quality Assurance process, it was learned that some automobiles, primarily luxury models, may contain small mercury switches for vanity mirror lighting in the passenger-side sun visor (See Figure 1). Further, it was learned that the 4-wheel drive ABS sensor switch located in the Chrysler Jeep Grand Cherokee was relatively easy to locate and remove under the rear seat. Such units contain three (3) steel cased mercury 'bullets' (See Figure 3).

5.0 Obstacles Encountered

The biggest obstacle to be overcome in the removal of mercury switches is the learning curve for locating and removing the switches. Although reference documents which included lists of vehicles purported to contain mercury convenience lighting switches were provided to all participating facilities, it was learned in the field that such documents were unreliable. Further, the reference documents had an initial negative impact of reinforcing participating facilities belief that older vehicles did not contain mercury switches. It was learned that trying to compare a vehicle year, make and model to the lists required too much time and often provided inaccurate data.

Field experience taught that the best procedure was to inspect the hood and trunk lids of all vehicles to locate and remove all convenience lighting switches in their entirety, with the exception of obvious mechanically activated switches. This proved to be the quickest, most reliable way to make sure all mercury switches were removed. In this way, it was possible to ultimately eliminate certain foreign makes of vehicles, such as Toyotas and Hondas which do not contain the switches, whereas most full-size domestic cars manufactured up to the early 1990's, appear likely to have at least one mercury convenience light switch.

The glass vial mercury switches require special handling to avoid breakage and release of the metallic mercury. Such units must be placed in plastic bags or plastic containers.

Some vehicles inspected were damaged to the point that opening hoods and/or trunk lids was difficult, requiring heavy equipment to open them. In some instances, trunk lids were locked with no key available, also requiring heavy equipment to assist in opening the lid.

Recordkeeping difficulties were encountered. The forms utilized required the make, model and year information be recorded for each vehicle. The Vehicle Identification Number (VIN) was not recorded. In many instances, it was difficult to determine the vehicle year. In some instances, model determination was difficult. For purposes of verification and ease in Quality Control/Quality Assurance activities, recording the vehicle color and any other obvious distinguishing features along with the make (model if readily identified) is required at a minimum.

The automobile dismantling/recycling facilities, because of the relatively low volume of end-of-life vehicles handled, have the ability to remove mercury convenience light switches and record data during the disassembly process normally undertaken by the facility. However, scrap processing/auto wrecking facilities which tend to handle much higher volumes of end-of-life vehicles find it more difficult to remove the mercury switches and record the data, as the processing operation needs to be adapted to accommodate inspection and removal.

The key components to implementation of a mercury convenience lighting switch removal program are:

1. Personnel Training to assure consistent, reliable switch removal.
2. Recordkeeping to document switch removal.
3. Financial incentive to assure consistent, reliable, ongoing switch removal.

6.0 Estimated Cost of Switch Removal

On the basis of the New Jersey Pilot Project findings, as well as those of the US EPA and others, it is clear that it takes less than 1 minute to remove a mercury convenience lighting switch unit from an end-of-life vehicle. The pilot project found that once through the 'learning curve' actual removal time is about 0.5 minute per switch.

However, in order to locate and remove all the mercury convenience lighting switches, it is necessary to inspect all vehicles, with the exception of Toyotas and Hondas, and remove all switches located. The time involved in inspecting a vehicle and locating switches or determining no switches are present takes approximately 3 minutes per vehicle. This examination could be performed in conjunction with other inspections performed by auto dismantlers and auto wreckers. The time varies depending on the condition of the vehicle. In most yards, approximately 50 percent of vehicles are damaged in some way that may have an adverse impact on inspection time. Preparing written documentation takes 1 minute per vehicle, whether or not switches are located. Therefore, approximately 4 minutes per vehicle is required, whether or not switches are located.

The New Jersey Pilot Project found an average of 0.8 switches per vehicle, other similar studies have found an average of 0.5 to 1 switch per vehicle.[8]

On the basis of no more than 1 switch per vehicle, total time required to inspect, locate, remove and document a mercury convenience light switch is less than 5 minutes per vehicle. If the cost of labor, including benefits and overhead is in the range of $25.00 to $40.00 per hour, the cost to locate, remove and document a switch is $2.00 to $3.00. This does not include handling and transportation expenses for the proper disposal of the mercury switches.

It should be noted that automotive repair industry estimating guides[9] report that the time for removal and replacement of hood and trunk convenience lighting switches ranges from 0.2 to 0.4 hours per switch, with the majority being 0.2 to 0.3 hours per switch. Therefore, removal only can be estimated to be 0.1 to 0.15 hours (6 to 9 minutes) per switch. The pilot study demonstrated that actual time required is less than these industry estimates.

The cost of processing and recycling a 5-gallon pail of mercury switch 'bullets' or switch assemblies is $150.00 plus shipping and handling as a Universal Waste.[10] Therefore, it would be advantageous from a cost standpoint to remove as many mercury switch 'bullets' as possible. The cost per switch for transportation, handling, processing and recycling of the switch assemblies is on the order of $1.00 per switch. Alternatively, if 'bullets' only are to be handled, cost per switch would be on the order of 5 cents, not including the cost of removing the bullet from the switch unit. Removal of the mercury-containing bullet is estimated to require approximately 0.75 minute[11] and therefore cost approximately 50 cents each. The total cost for mercury switch removal, handling, transportation, proper disposal and recordkeeping is conservatively estimated to be $3.00 per switch.

Removal of 4-wheel drive ABS switches is more complicated and time consuming. The easiest to locate and remove is the Chrysler/Jeep Grand Cherokee switch located beneath the rear seat. This requires removal via a wrench to unbolt the unit. Cost of removal of these units is estimated to be at least $5.00 per unit, allowing 7 to 8 minutes to locate, remove the rear seat, unbolt the unit, remove and document. Further, not all Grand Cherokee models were found to have the units, therefore in some cases, upon removal of the rear seat no switch will be found. Other 4-wheel drive ABS units require the vehicles to be raised on a lift and time requirements are 10 to 15 minutes per switch. Also, it is not possible to remove the mercury bullets from these units as they are encased in a plastic resin material (see Figure 3), hence shipping and handling costs will be significantly higher than for convenience lighting switches.

The US EPA[12] determined it was not cost effective to go beyond the hood and trunk convenience light switches. However, it appears that the Chrysler/Jeep Grand Cherokee ABS switches may be cost effective to remove. On a mercury weight basis, they are less costly to remove than hood and trunk convenience light switches. Each ABS sensor contains approximately 3 times as much mercury as the typical convenience light switch.

7.0 Recommendations for Implementation of a Regional Switch Removal Program

For a successful mercury switch removal program to be implemented to minimize mercury emissions in New Jersey, it should be a regional program. Ideally, New Jersey, New York, Pennsylvania, Connecticut and Delaware should participate in such a program.

Shredded scrap melted by the steel mills and foundries in New Jersey is procured from sources within these states. Even if the steel mills and foundries in New Jersey limited their purchases to New Jersey shredders, the New Jersey shredding facilities procure end-of-life vehicles from out-of-state sources, as discussed previously.

Mandatory mercury convenience light switch removal legislation or regulations in New Jersey alone will not assure that switches are removed prior to shredding from out-of-state sources. Since most end-of-life vehicles are crushed in preparation for shipping to the shredder, it is impossible to inspect such vehicles upon receipt at the shredding facility. Further, inspection of any vehicles at a shredding facility prior to shredding is very difficult without significantly disrupting operations, since shredders are high volume facilities, typically handling 40 to 100 vehicles per hour. Shredding facilities are generally high volume, low margin operations.[13]

If in-state scrap vehicle suppliers remove all mercury convenience light switches, but not out-of-state suppliers, shredders would have to segregate the incoming raw materials, as well as the shredded steel scrap product. New Jersey shredding facilities have limited storage space. This would add cost to the shredded steel product. A way to avoid such segregation would be to sell shredded steel product to out-of-state or international markets only. It should be noted that historically the bulk of New Jersey produced shredded scrap is sold in the export market. However, during the period 1998 through 2001, most scrap was sold domestically.

Pending Federal and state regulations[14,15] which mandate the use of mercury switch-free scrap by steel mills and foundries place the burden of monitoring mercury convenience lighting switch removal on the shredded scrap consumer. The consumer has no control over day to day operations of the facilities that need to remove switches. Therefore, one alternative which may be considered by some scrap consumers is

eliminating or significantly reducing the procurement and use of shredded scrap. To comply with pending rules, scrap suppliers must remove mercury convenience light switches and be subject to inspections.

A financial incentive is desirable in conjunction with regulations to maintain the flow of end-of-life vehicles to the shredders and low mercury content shredded scrap to the steel mills and foundries in New Jersey. The cost of such a program should be borne primarily by the automobile manufacturers responsible for the use of the mercury switches in their product. Steel mills and foundries desiring to utilize the shredded steel product as a raw material have no desire or use for any mercury that accompanies the scrap and are willing to assist in implementing effective removal programs. Additional end-of-pipe controls have not been demonstrated and cost effectiveness remains uncertain. Cooperative mercury switch removal efforts by all parties are appropriate. Such a cooperative effort in New Jersey could serve as a model for the region, or nationally.

As discussed previously, the total cost of location, removal, documentation, handling, transportation and proper disposal of mercury convenience lighting switches is approximately $3.00 each. A bounty of this amount in conjunction with regulations requiring removal of switches prior to the crushing or shredding of vehicles should result in removal of the bulk of mercury convenience lighting switches.

In New Jersey, mercury convenience lighting switch removal could also be mandated in the next revision to the Scrap Metal and Automotive Recycler General NJPDES Permit. Such permit (NJPDES General Permit No. NJ0107671) is due to expire November 30, 2004 and is scheduled to be revised and reissued by that date. More than 260 facilities in New Jersey are covered by this permit. The existing permit mandates removal of various automotive fluids prior to crushing or shredding since they have the potential to be released into the environment as a result of the shredding process. Metallic mercury, as a liquid has that same potential.

The implementation of any mercury switch removal program will require the full support of facility management for operator training and to assure ongoing consistency in inspection and removal of switches. Management motivation and attitude is key to any program.

As stated previously, it is desirable that any program be implemented on a regional basis due to the significant amount of interstate commerce involved in the handling and processing of end-of-life vehicles.

8.0 Projected Costs and Benefits

As discussed, approximately 500,000 vehicles are shredded annually in New Jersey. Based on the pilot study data and information, this means that the approximately 400,000 mercury convenience lighting switches are included with the vehicles shredded annually. As noted previously, the actual number of mercury switches could range from 250,000 to 500,000. Assuming the worst case of 1 switch per vehicle, and a cost of $3.00 per switch, the annual cost of a mercury switch removal program in New Jersey is $1.5 million.

When considering that the average mercury switch contains 1.2 grams of mercury as determined by the pilot study, that annual cost has the potential to remove 1300 pounds of mercury from the environment. Cost per pound of mercury removed would be $1154. This is comparable to the $1286 per pound cost estimated by the US EPA in the development of the proposed National Emissions Standard for Hazardous Air Pollutants for Iron and Steel Foundries.

9.0 References

[1] Ecology Center, Great Lakes United, University of Tennessee Center for Clean Products and Clean Technologies, "Toxics in Vehicles: Mercury," January 2001.

[2] Ibid

[3] Nachtman, J. and Hill, D., "Mercury in Automotive Systems – A White Paper," International Congress & Exposition, Paper #960409, SAE, Detroit, MI, February 1996.

[4] A Gross Ton, also known as Long Ton, is 2240 pounds. Common unit of measurement utilized in the steel and steel scrap industry.

[5] Compliance Emission Test Report, Gerdau-Ameristeel Sayreville, Melt Shop Baghouse Stack, February 2004.

[6] Gerdau-Ameristeel presentation at Mercury Switch Work Group Meeting, NJ DEP, December 18, 2003.

[7] Personal Communication, Fred Cornell, HNSE, February 2004.

[8] "Michigan Mercury Switch Study," December 19, 2002.

[9] Motor Information Systems, Crash Estimating Guides, Hearst Business Publishing, Inc., Troy, Michigan.

[10]Cost information provided by Comus International, Clifton, NJ and AERC Recycling Solutions, Allentown, PA.

[11]"Michigan Mercury Switch Study," December 19, 2002, p. 5.

[12]National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries, Proposed Final
Rule, Summary of Environmental, Energy and Economic Impacts.

[13] "Management of End-of-Life Vehicles in the U.S.," March 2001, Center for Sustainable Systems, University of Michigan, Report No. CSS01-01.

[14] 40 CFR Part 63, Proposed Subpart EEEE, National Emission Standards for Hazardous Air Pollutants from Iron & Steel Foundries, September 2003.

[15] Proposed Regulations for the Control and Prohibition of Mercury Emissions, NJ DEP, Division of Air Quality, Permitting Element, DEP Docket No. 30-03-12/340.

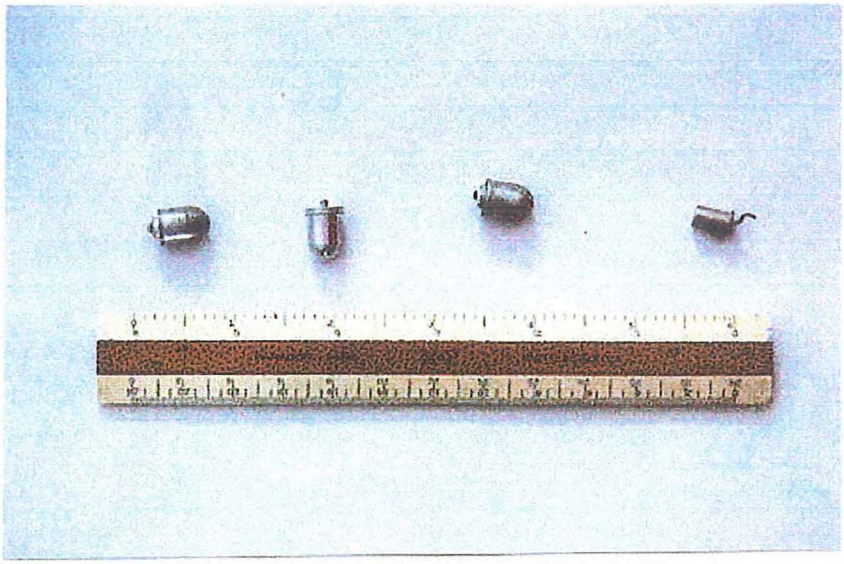

FIGURE 1

Typical Mercury Switch Steel 'Bullets'

Far Right is Vanity Mirror Mercury Capsule

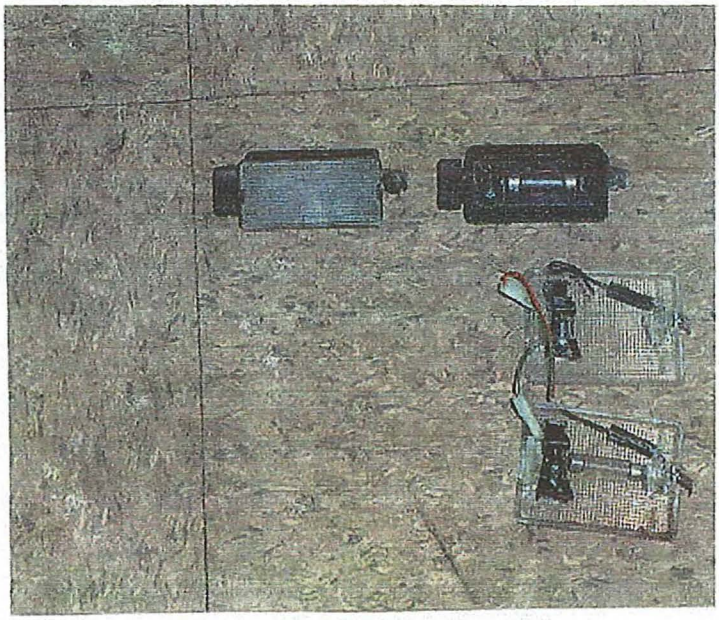

FIGURE 2

Glass Vial Mercury Switches

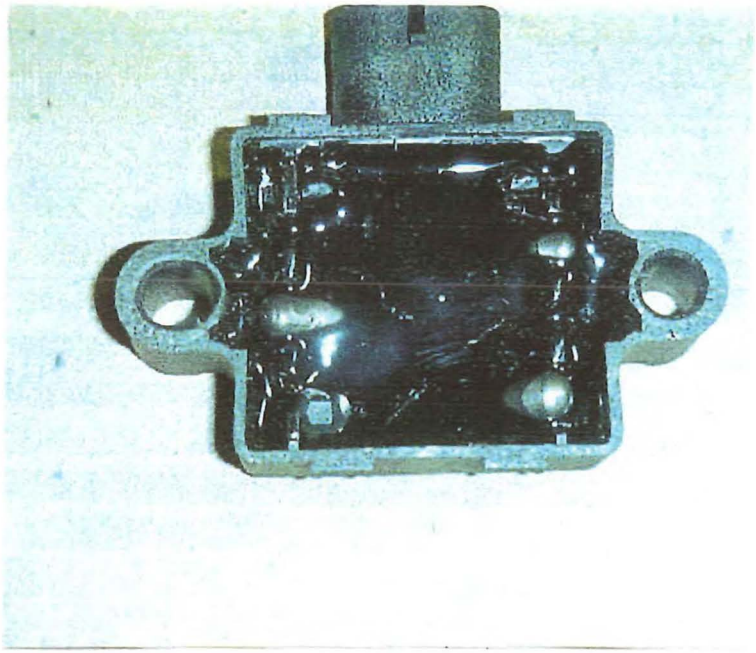

FIGURE 3

ABS Switch Containing 3 'Bullets'

FIGURE 4

Typical Convenience Light Switch Assemblies as Removed

FIGURE 5

Mercury Switch Assembly Removal

FIGURE 6

Mercury Switch Assembly

FIGURE 7

Vehicles Awaiting Inspection & Crushing

FIGURE 8

Vehicles Awaiting Shipment to Shredding Facility

FIGURE 9

Vehicle Crushing Operation

FIGURE 10

Typical Crushed Vehicles

FIGURE 11

Vehicles at Scrap Processing Facility Awaiting Inspection

FIGURE 12

Vehicle Crushing Operation

FIGURE 13

Vehicles at Shredding Facility

FIGURE 14

Vehicles at Shredding Facility Before Final Inspection

FIGURE 15

Shredded Scrap at Shredding Facility

FIGURE 16

Shredded Scrap at Steel Mill

FIGURE 17

Steel Mill Scrap Feed System

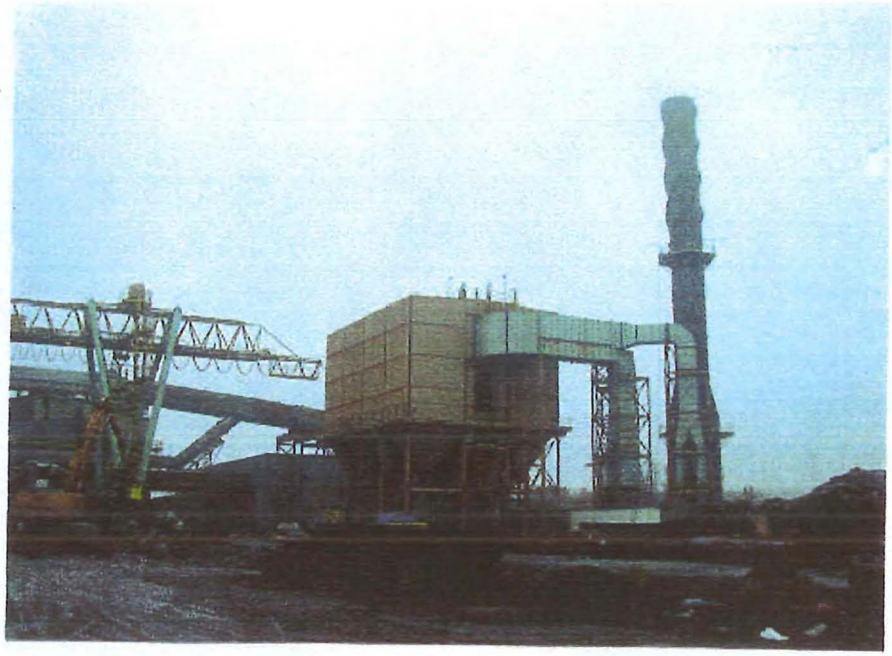

FIGURE 18

Steel Mill Baghouse & Stack

APPENDIX G

Informational mailings

Press clippings

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Memorandum

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R. GALLAGHER
COMMISSIONER

To: Automobile dismantlers, recyclers and salvage yard operators

From: Paula Clark, Director, Division of Solid Waste Management

Date: November 12, 2004

Re: Update on removal of mercury switches from motor vehicles

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I write to remind you that it is illegal in Maine to crush a motor vehicle without first removing any mercury switches. If you are crushing cars or sending cars to a crusher, it is your responsibility to remove the switches, store them in the buckets we provided, and deliver them to Wesco Recycling in Bangor or Portland.

Wesco is the agent for DaimlerChrysler, Ford, GM and other automakers. They are responsible for collecting the switches from you and paying to have them recycled. They also must pay you $1 for each switch, but will do so only if you provide the VIN for each vehicle.

You only need to provide VINs if you want the $1 bounty. Wesco will accept the switches without VINs. If you choose not to record VINs, you still must deliver the switches to Wesco or another business licensed to handle mercury waste. It is to your advantage to use Wesco because they will recycle the switches at no cost to you.

Enclosed is a revised log sheet for keeping track of the switches. Both the DEP and Wesco require you to maintain a count of the switches in the collection bucket. You also must sign the log to certify the switches came from Maine vehicles. There is space on the back of the log to record VINs if you intend to claim the $1 bounty.

Take the log sheets with you when you deliver the switches to Wesco and call ahead. The switch collection program is new and may not be familiar to all Wesco staff. You can avoid problems by calling Jim Baines of Wesco at (207) 478-1911 to let him know when you plan to arrive.

We encourage you to deliver the switches to Wesco sooner rather than later. Our Hazardous Waste Rules allow you to keep the switches at your business for up to 3 years. By turning them in early, you can help us determine how well the program is working. Our effort to keep mercury out of Maine's environment will not succeed without your active participation. If the program is not working for you, please call Enid Mitnik at 287-8556 to let us know.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 764-1507

web site: www.state.me.us/dep

The department has a free guidance manual and instructional video on removing mercury switches. Call Enid Mitnik at 287-8556 for your copy or complete and mail the order form below.

Order Form – Complete this form for Free Materials and Information on Removal of Mercury Switches from Motor Vehicles

☐	Send me more information on how the program works
☐	Have someone from the DEP contact me

Send me the following materials:

☐	Instructional video	☐	Secure mercury switch storage bucket*
☐	Written instructional manual	☐	Universal waste label for the storage bucket
☐	Laminated instruction cards for use by shop mechanics	☐	More log sheets

**We can not mail this item. Call to arrange pickup at one of our regional offices.*

Name _____

Company _____

Address _____

City _____ Zip Code: _____

Please mail the order form to:
Enid Mitnik, DEP-BRWM, 17 SHS, Augusta ME 04333

Thank you for helping keep mercury out of Maine's rivers, lakes and streams!

Mercury Switch Log Sheet

Use this sheet to keep track of the number of switches you remove from motor vehicles

Name of your business: _____

Address: _____

_____

Contact person: _____ **Ph:** _____

Switch transport. When the collection bucket is full or within 3 years after first placing switches in the bucket, you must take the switches to WESCO Recycling at either of the following locations:

- ☐ WESCO Recycling, 80 Farm Rd, Bangor
- ☐ WESCO Recycling, 327 Marginal Way, Portland

BEFORE YOU GO:

- Call Jim Baines at (207) 478-1911 so Wesco staff will expect your arrival.
- Fill in the switch totals in the space provided below.
- REMEMBER TO TAKE THE SIGNED LOG SHEETS WITH YOU.

Number of switches removed (Use tick marks like this /// to keep track of the number of switches in the storage bucket)	
Light switches	**ABS sensors**

Total light switches _____

Total ABS sensors x 2 _____

TOTAL switches _____

By signing below**,** I certify that the switches are from motor vehicles dismantled in Maine.

Signature: _____

Printed name: _____ Date: _____

VIN	# of Hg switches

VIN	# of Hg switches

To get to the Winter/Spring edition of the Auto Recycler's News, click the following link.

http://www.maine.gov/dep/rwm/motorvehiclerecycling/pdf/autorecnewwinterspring2004.pdf

More car mercury switches recycled

Tuesday, December 21, 2004 - Bangor Daily News

These mercury switches were removed from vehicles and sent to Westco Distribution, a Bangor- and Portland-based hazardous waste firm that holds the contract to handle the switches through the end of 2005. Mercury is visible in the old switch (center), which was partially made of glass. Bangor Daily News Photo by Gabor Degre

Maine has rescued at least 16,896 mercury switches from junked cars since the state approved the nation's first mandatory switch recycling program two years ago, according to a study released Monday by the Natural Resources Council of Maine. The independent survey of junkyards counted more than five times as many switches as the state had previously reported, since many small operations are stockpiling the switches before turning them in, they told NRCM.

Overall, the program is considered a modest success, with the state Department of Environmental Protection estimating that 20 percent to 30 percent of all switches are now accounted for, said John James of the department's Waste Management Bureau.

The switches - tiny vials of metal or glass containing a single bead of mercury - were used in lighting, seat belts and anti-lock braking systems before the advent of electronic sensors. As the only metal to be a liquid in its natural state, mercury possessed the ability to flow with gravity, completing an electronic circuit that could, for example, turn on a light automatically when a vehicle's trunk was raised.

The Alliance of Automobile Manufacturers, which represents nine major firms, began phasing out mercury in 1995 and pledged that no new car manufactured after Jan. 1, 2003, would use the switches. Other automakers have made a similar switch to computer circuitry.

But hundreds of thousands of late-model cars and trucks using mercury switches remain on the road. And as these vehicles wear out, that mercury must be accounted for, environmentalists have argued.

Otherwise, worn-out vehicles would be gutted for parts, crushed, and sent to steel recycling facilities - most of which are concentrated in New Jersey - with the mercury switches intact. As a result, the mercury would continue to be emitted from the smelters' smokestacks.

According to The Clean Car Campaign, a Michigan-based environmental group, 18,000 pounds of mercury was released into the air nationwide last year as cars were melted down.

And since the New York metropolitan area is a major source of air pollution that drifts northeast on the prevailing winds, most of the East Coast mercury ends up in New England lakes and streams, where it can contaminate fish flesh.

Mercury is a neurotoxin that scientists have linked to birth defects and learning disabilities, and to cancers and heart disease in adults.

"The fact is, [the mercury] blows back to Maine," James said.

Maine legislators created the recycling program in 2002, asking junkyards to remove the switches, then charging auto manufacturers a dollar per switch bounty to fund the program. The Alliance of Automobile Manufacturers unsuccessfully challenged the law in court, arguing that it was a burden on interstate trade, but has since complied.

However, some automakers have been testifying in New Jersey and Minnesota, other states considering following Maine's lead, saying that the collection program is a failure because only 2,417 switches have been turned in for the bounty.

NRCM responded by surveying approximately 100 auto salvage shops this fall, and learned that, in fact, more than 16,000 have been collected. NRCM spokesman Jon Hinck believes that all the major shops were contacted, but that many more switches could have been collected, a few at a time, by small businesses in rural Maine.

Under state law, shops have three years and can collect more than 4,000 of the tiny switches before they are required to turn them in to Westco Distribution - the Bangor- and Portland-based hazardous waste firm that holds the contract to handle the switches through the close of 2005. In Bangor, Westco had collected 2,435 switches as of Monday, according to spokesman Jim Baines.

Many facilities told NRCM they didn't want to go to the trouble of collecting the bounty - as automakers have required detailed records, including the vehicle identification number, for each car a switch is removed from.

Some said they recycled the switches anyway because it was "the right thing to do," Hinck said.

Others argued that they couldn't afford to participate.

"The program isn't designed so that auto recyclers in Maine can profiteer, but ... I'm really quite convinced that nobody comes close to breaking even on $1 a switch," Hinck said.

In fact, 70 percent of those surveyed said that the bounty should be increased.

DEP agrees, and has submitted a bill for consideration by the 122nd Legislature that would raise the bounty from $1 to $3, James said.

The department would also like to boost its aggressive education program, by hiring a temporary state employee to transport the switches to Westco facilities, he said.

"We do think it can work better," James said.

Bangor Publishing Company
www.bangornews.com/

Maine models mercury program

Maine Sunday Telegram, December 26, 2004
By Bart Jansen, Portland Press Herald Writer

WASHINGTON — A pioneering Maine program to remove mercury switches from junked cars has collected thousands of grams of the neurotoxin and is a model for a handful of other states considering similar legislation, according to a survey by the Natural Resources Council of Maine. For two years, the state program asked salvagers to remove mercury switches from trunk lights or anti-lock brakes before crushing a car on its way to the smelter. By collecting nearly 17,000 switches, the program has kept some of the neurotoxin from going up in smoke when the car is melted down. But the financial reward for the switches remains low, which discourages participation in the voluntary program.

"I think that this independent study shows that the Maine automotive mercury switch collection program is a success," said Kevin Mills, director of pollution prevention for the national advocacy group Environmental Defense. "This confirms it's a good model Maine has chosen."

The goal is to limit mercury returning in rain to poison fish and the people who eat fish. Every river and lake in Maine carries warnings to limit fish consumption, particularly for pregnant women, because mercury can cause brain damage in fetuses.

To gauge the program's success, Natural Resources Council of Maine surveyed 115 salvagers in September and October who said they removed 14,479 mercury switches since the program began Jan. 1, 2003. Another 2,417 pellets of metal containing mercury from switches were also turned in to collection centers that Wesco Distribution operates in Portland and Bangor.

The total of 16,896 switches would account for an estimated 30 percent of switches possible during that time frame, although advocates said the rate could be much higher because many salvage yards weren't contacted for the survey.

Typically, a trunk-light switch has about 0.8 grams of mercury and an anti-lock brake system has 3 grams. Diverting one switch from the smelter can prevent tainting an 18-acre lake for a year, according to an Environmental Protection Agency flyer.

"It's getting a little old hearing Maine praised over and over again," said Jon Hinck, a mercury specialist with the council who co-wrote a report about the survey. "Whether meeting with officials or activists, it's the same song. We led the way on this one and if New Jersey comes on board, we're actually going to have some serious progress."

Car makers fought the law and contend any policy should aim to get rid of mercury switches in all consumer products, such as thermostats, washing machines and freezers.

"There needs to be a comprehensive plan to address the use of mercury switches in all consumer products," said Charles Territo, spokesman for the Alliance of Automobile Manufacturers representing nine major companies.

A U.S. District judge upheld the Maine program in February. Now other states are taking a look, including Rhode Island, Massachusetts, Pennsylvania and Minnesota.

The most promising prospect is New Jersey, where crushed cars from Maine and other states tend to get melted down. The New Jersey state assembly has approved a bill similar to Maine's and the state Senate is considering it.

"We are quite optimistic about New Jersey following Maine's lead," said Mills of Environmental Defense.

A problem identified by half the respondents in the Maine survey is that $1 per mercury switch is too small for some salvagers to bother collecting. Salvagers must copy down the 16-digit vehicle identification number for each car in order to get the bounty.

Car makers insisted on having numbers so each company would know how much to pay. But environmental advocates argued that the car makers should have simply paid a share of the total collected based on the portion of total vehicles sold.

In any event, some of the salvage yards that remove the mercury switches don't keep track of the vehicle numbers. Hinck found one yard had a tub with 1,300 switches but no numbers. The worker described the hassle of carrying paper and a pencil around to each car, wrestling with gloves in bad weather while trying to keep the paper dry.

In New Jersey, the bounty each switch is a proposed $2.25.

Maine's collection strategy is also unusual because the switches are no longer used in cars. Manufacturers began phasing out mercury switches in 1995 and stopped altogether in 2003.

"We think we've been a leader in the automotive industry," Territo said.

But as older cars are retired, the chance to divert mercury from the furnace is both urgent and temporary. Environmental advocates say that as problems become more diffuse, they are more difficult to tackle politically. By focusing just on cars, the problem is concrete and manageable.

"This is an issue where one cannot afford to wait around," Mills said. "Millions of switches are out there to recover. But if we don't start now, we don't get them."

Recycling rules include mercury-filled switches in some cars

Knox Village Soup

By Michael Sabiers

AUGUSTA (Dec 27): State residents have a list of items -- called universal waste -- that they must recycle at their local transfer stations. The list targets household items that contain the toxic chemical mercury, such as fluorescent bulbs, thermometers and household thermostats.

But a source of mercury not on the recycling list for individuals is sitting in many driveways in the estimated 215 million tiny light switches in some cars manufactured during the 1970s, '80s and early '90s, according to the U.S. Environmental Protection Agency and Maine Department of Environmental Protection. Even the EPA and the DEP do not know exactly how many of the switches were put in, or exactly which cars contain them.

The switches were often sold as part of special optional lighting packages. They turn trunk and hood lights on and off, alert sleeping neighbors that a car is being stolen, and tell the automatic brake system how fast to stop the car. On some new cars the high-intensity discharge headlights may also contain mercury.

Since January 2003, Maine law has required auto salvage yards to remove the mercury-laden switches before they crush a junked car and melt it down. The law also requires auto makers to pay a bounty of $1 for each switch recycled from one of their cars. Auto makers challenged the law in court and lost.

But even under the new universal waste recycling law, no private owner is required to remove the switches from a car that may be rusting away in the back yard. Maine law only requires that the switches be removed before the car is physically crushed by a licensed auto salvager.

According to the DEP, the vast majority of all autos crushed in Maine end up in New Jersey to be melted down for scrap. In the process of burning the cars, the toxic mercury is released into the atmosphere and finds its way back into the fish caught in Maine's rivers and streams.

New Jersey and other states are looking to Maine as a model for new recycling laws. According to the Natural Resources Council of Maine, opponents of a proposed New Jersey bill have been citing what they say is low participation in the Maine recycling program as an argument against enacting similar laws in New Jersey.

Last week the NRCM released the results of a recent survey of auto salvage yards that showed that although the DEP had recorded only about 1,600 switches officially turned in for the $1 bounty, more than 10 times that number had actually been collected at auto recycling facilities and were awaiting proper disposal.

Salvage yards put the switches in a special DEP-furnished five-gallon bucket. They are only required to turn in the bucket every three years, or when it contains 4,000 switches, whichever comes first.

The NRCM cited its survey results as evidence that the Maine law is having a much greater positive impact than opponents would like the public and other states' lawmakers to believe.

"Maine is ahead of the curve on this," said Jon Hinck, NRCM Toxics Project director in Augusta. "This is a very good program because of the environmental benefits and it would be good if larger states adopted it."

Hinck said he can't believe people make money off of the program, even with the $1 bounty per switch. "There is just too much work involved to find the switch, remove it, write down the vehicle identification number, then write up all the paper work and take the switches to Portland or Bangor to the consolidation center," he said.

The experience of one Knox County salvage yard would seem to support Hinck's statement that the bounty is not much of an incentive.

"We do every car as soon as it comes in, right by the book," said Brian Heal, owner of Mank's Auto Parts and Sales in Warren, a state DEP-licensed auto graveyard. "I have collected about 100 switches from between 300 and 400 cars over the last two years. We only find mercury switches...but at $1 per switch it's not cost effective. I believe totally in recycling this stuff and would do it anyhow. It is 100 percent worthwhile. Of course, I can't speak for other salvage yards."

The man at the top of the heap, so to speak, of mercury switches in Maine is Jim Baines, recycling coordinator for WESCO Distributors Inc., a private electrical supplies wholesaler that runs the two facilities in Maine licensed to collect the switches and manage the bounty payments and collections. One is in Portland and the other in Bangor.

"I have personally handled every mercury switch turned in for bounty in the state of Maine in the past two years," he said. "No one person is going to go around to try to make money collecting switches and turning them in for $1 each. The average person would not even know where they are on the car."

Baines said that on the reimbursement he would only deal with commerical businesses, not individuals. He said that to get the reimbursement a salvage yard needs to bring in the switches along with each car's VIN, then wait three to six weeks to get a check in the mail.

But if by chance a car owner does remove a mercury switch from that car in the back yard, they can't take it to WESCO or just throw it in the regular trash, but must set it aside for professional recycling, usually at their town's transfer station.

Not only will there will be no bounty involved in such a case, but taking it to the transfer station may actually cost money.

Four of the seven transfer stations serving Knox County towns charge for recycling universal waste, especially anything with mercury in it, like house thermostats, thermometers of all types, fluorescent bulbs and HID headlights.

The car switches contain about one gram of mercury -- the weight of a single paper clip -- and weigh a few ounces. "We charge $5 per pound, or fraction thereof," said Tim Fowles, gate attendant at the Rockland Transfer Station on Limerock Street.