

Recommendations to Prevent Mercury Pollution from Auto Parts

A Report to the Mercury Reduction Oversight Commission
From the Subgroup on Auto Mercury

March 2005

Subgroup Participants

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Executive Summary

In 2004, both houses of the Rhode Island General Assembly passed resolutions “respectfully urging the Mercury Reduction Oversight Commission to prevent mercury pollution from auto parts.” (See Appendix A)

The resolution urged the 14-member Mercury Reduction Oversight Commission (established pursuant to RIGL §23-14.9-2.1) to develop a plan to address the collection and recycling of mercury added auto parts in a manner that is convenient and minimizes costs to taxpayers and consumers. The resolution urges the Commission to submit a recommended plan to the General Assembly by January 30, 2005 including any legislation necessary to implement the plan, for the collection and recycling of mercury-added auto parts that utilizes a “producer responsibility” model. The Mercury Reduction Oversight Commission, which began meeting in May 2004, established a subgroup of interested parties in August 2004 in order to address the issues raised by the General Assembly’s resolution. Participants included representatives from the Audubon Society of Rhode Island, the Automotive Recyclers Association of Rhode Island, the Alliance of Auto Manufacturers, Clean Water Action, the Department of Environmental Management, the Rhode Island League of Cities and Towns, and Metals Recycling.

The subgroup reviewed the magnitude of the problem of mercury pollution from auto parts in Rhode Island, models for addressing the issue developed by other states, and the feasibility of implementing a program to address the issue in Rhode Island. **While mercury can be found in numerous automobile components, the subgroup decided to prioritize its initial efforts and to focus on mercury switches (commonly used in convenience lighting fixtures and, to a lesser degree, in anti-lock breaking systems (ABS)).**

The Rhode Island Department of Environmental Management (DEM) estimates that approximately 50,000 Rhode Island vehicles are retired annually. Based on a model developed by the Maine Department of Environmental Protection with input from industry representatives, **DEM projects that approximately 602 lbs. of mercury remains in convenience light switches in vehicles registered in Rhode Island.** In addition to this mercury from cars registered in Rhode Island, Metals Recycling processes approximately 60,000 vehicles from out-of-state each year. Of these vehicles, approximately 24,000 are in a condition from which mercury switches could be recovered. Independent auto recyclers also process an unknown number of out-of-state vehicles. **From this pool, it is estimated that 43 pounds of mercury are available per year to feasibly be collected from mercury switches in Rhode Island.**

The subgroup developed a creative approach to capture and dispose of mercury switches from auto parts, which grants a significant degree of flexibility for auto manufacturers and affected parties to craft an effective collection program of their own design. The proposed plan strays from recommending a more traditional “command and control” style approach to pollution prevention and instead recommends a performance standard strategy that defines the terms of success for mercury switch removal program. **This market-driven approach will encourage wide participation in the program and minimize the need for the Department of Environmental Management to engage in time-consuming enforcement actions.**

Summary of Recommendations

Based on the information gathered by the subgroup, the following recommendations are offered to prevent mercury pollution from auto parts in Rhode Island.

1. **Recommendation – Establish a disposal ban and collection requirement for mercury switches at vehicle end of life.** The Rhode Island General Assembly should amend the Mercury Reduction and Education Act (RIGL 23-24.9) to establish a disposal ban and collection requirement for auto switches containing mercury. The collection requirement should establish performance criteria for the amount of mercury to be collected by the auto manufacturers on an annual basis. The legislation should specify that, if the capture rates are not met in a timely fashion, DEM shall be authorized to adopt regulations establishing a manufacturer funded collection program.

In developing a plan to meet collection performance criteria, the auto manufacturers should take advantage of the wide range of opportunities to collect mercury components from both vehicles still in-use as well as at the end of the vehicle's use. The plan could include replacing switches at dealerships or safety/emissions inspections, fleet cleanings, as well as collection of switches by auto recyclers and scrap recyclers.

2. **Recommendation – Require auto manufacturers to develop an education and training program regarding mercury removal.** A thorough education and training program should have the objectives to train management of recovery facilities as to their company's responsibility for removing mercury switches and cooperating in the program and to provide hands-on training for employees removing and handling the switches.
3. **Recommendation – Develop Rhode Island Auto Mercury Pollution Prevention Awards Program.** In an effort to encourage greater voluntary participation in mercury reduction and elimination programs by Rhode Island businesses, Rhode Island should consider creating an annual awards program for businesses, institutions, government agencies, or individuals who have made significant strides in the field of reducing mercury pollution from vehicles. The awards should be focused on vehicle fleets voluntarily participating in "switch the switch" programs.
4. **Recommendation – Any of the above changes to current Rhode Island law should maintain an enforcement mechanism consistent with the Mercury Reduction and Education Act (RIGL 23-24.9-16).** The current law requires that a violation of any of the provisions of this law be punishable, in the case of a first violation, by a civil penalty not to exceed one thousand dollars (\$1,000). In the case of a second and any further violations, the liability shall be a civil penalty not to exceed five thousand dollars (\$5,000) for each violation.
5. **Recommendation – The state should consider defaulting to a comparable national program should it be developed.** In the event that a national program is developed to address collection of mercury from auto parts, the Department of Environmental Management should consider deferring to the national program, provided it is consistent with the purposes and policies of Rhode Island's current auto mercury requirements. A regional or national strategy to address the problem of mercury in vehicles should be encouraged and promoted.

Legislative Background

Since 2002, legislation to specifically address mercury from auto parts has been introduced and heard by the Rhode Island General Assembly, but not passed. The Mercury-Free Vehicle Act would establish a comprehensive program to phase out the use of mercury-added components from motor vehicles and require the auto manufacturers to fund a system to remove collect and recycle mercury-added components from motor vehicles at no cost to the owners with a target removal rate of 90 percent a year.

During the 2004 session, members of the General Assembly recognized that the Mercury Reduction Oversight Commission has the mission to prevent human sources of mercury from contaminating the environment (air, water, soil) and is an appropriate body to make recommendations to address the challenge of mercury pollution from auto parts before legislative action occurs. In 2004, both houses of the Rhode Island General Assembly passed resolutions “respectfully urging the Mercury Reduction Oversight Commission to prevent mercury pollution from auto parts.” (See Appendix A)

Specifically, the resolution urged the Mercury Reduction Oversight Commission to develop a plan to address the collection and recycling of mercury added auto parts in a manner that is convenient and minimizes costs to taxpayers and consumers and to submit to the General Assembly no later than January 30, 2005 a recommended plan, including any legislation necessary to implement the plan, for the collection and recycling of mercury-added auto parts that utilizes producer responsibility.

The resolution noted that the Mercury Reduction and Education Act passed in 2001 acknowledged the dangers of mercury contamination and prohibited the disposal of mercury-added products by means other than recycling or hazardous waste disposal but exempts mercury-added components as contained in motor vehicles from the disposal ban (23-24.9-9) and collection plan (23-24.9-10). Additionally, the resolution noted that the state currently has no system to address the need to collect mercury added to auto parts before they are incinerated or otherwise released into the environment.

The resolution recommends the following characteristics for a plan to address mercury from auto parts:

- An effective mercury product recycling system must be convenient and minimize costs to taxpayers and to consumers.
- Auto manufacturers should be responsible for ensuring proper handling, recycling and disposal of discarded products and the costs associated with consolidation, handling and recycling be internalized by the manufacturers.
- A system of producer responsibility for the collection and recycling of mercury-added auto parts is the most effective and equitable means of keeping this toxic waste out of the waste stream and environment, while also providing a powerful incentive for manufacturers to reduce toxins and re-design products for recycling.
- Auto manufacturers should have the flexibility to act in partnership with each other, with state, municipal and regional governments and with businesses that provide collection and handling services to develop, implement and promote a safe and effective recycling system for mercury-added auto parts.

Risks of Mercury Pollution

The General Assembly's resolution noted that mercury from auto parts threatens the health of Rhode Islanders and that the Rhode Island Department of Health warns young children and pregnant or nursing women not to eat any freshwater fish caught in Rhode Island due to mercury contamination.

Studies continue to show the dangers of mercury. In comments to the U.S. EPA in 2004, the Northeast States for Coordinated Air Use Management (NESCAUM) noted that, "over 15,000 fish samples collected in the Northeast region confirm widespread mercury contamination of our aquatic ecosystems, irreparably threatening human health and wildlife unless actions are taken to reduce significant sources of mercury emissions. All Northeast states have issued fish consumption advisories because of mercury contamination. In addition to the toll on human health and wildlife, mercury contamination also threatens the tourist and recreational fishing industries, which contribute \$3 billion a year to our regional economy."

Additionally, new studies from the past year document that even more children in America than previously thought are endangered by mercury pollution, and that health damage to the developing child is a greater risk, broader and can be more permanent than previously believed.

Scientists with the Environmental Protection Agency now estimate that one in six women of childbearing age have unsafe mercury levels. This translates into over 630,000 children born in the United States at risk from mercury exposure each year.

A recent Harvard School of Public Health study found that the health problems from prenatal mercury exposure are irreversible and add up as the child grows older. In addition to the problems that begin prenatally, the study documents that children develop more health problems from eating mercury-contaminated fish as they get older.

NESCAUM summarized the problem by stating that, in the Northeast, the prospect of over 84,000 newborns potentially at-risk for irreversible neurological deficits and cardiovascular abnormalities from mercury exposure represents one of the most critical public health threats in our region today.

Mercury Components in Auto Parts

Historically, mercury has been used most in convenience lighting in trunk and hood lights, anti-lock brake applications, and ride-control systems. While these applications are being phased out, new uses, including mercury-vapor fluorescent and high intensity discharge (HID) headlamps and backlit panel displays, have been introduced. Other automobile parts that may contain mercury include acceleration sensors for air bags, seatbelts, rechargeable batteries for radios, batteries for remote transmitters, switches for vanity mirrors, heated rear windows and speedometer systems.

The Maine Department of Environmental Protection's January 2002 report, *Reducing Mercury Releases from Maine Motor Vehicles* analyzed the use of mercury in auto parts and is attached as Appendix B.

The following pictures denote some uses of mercury in auto parts.



Convenience Light Switch



Placement of light switch in hood.

ABS switch unit for a Ford Explorer



ABS switch unit for a Jeep



Pictures from *Reducing Mercury Releases from Maine Motor Vehicles* Maine Department of Environmental Protection, January 2002.

Finding, Removing, and Replacing Mercury Switches

The Environmental Protection Agency has compiled a useful set of resources finding, removing, and replacing mercury switches. The website includes instructions from Ford, GM, and Chrysler about how to remove mercury switches from cars. Additionally, the site lists state agency materials about switch replacement programs. These instructions would provide the basis for a training program for removal or replacement of mercury switches. The information is available online at www.epa.gov/ARD-R5/mercury/autoswitch.htm#remove.

Additionally, the IMERC notification database (www.newmoa.org) provides information about which vehicles contain mercury components.

Magnitude of the Problem of Mercury in Auto Parts

The General Assembly resolution noted that an estimated 890 pounds of mercury has been released from Rhode Island autos over the past 30 years and an equal amount could be released over the next two decades if action is not taken soon to recover the mercury from vehicles before they are scrapped. These numbers are derived from auto manufacturers estimated usage numbers reported in the *Mercury in Vehicles Update* (Appendix C), a state-by-state report by the Clean Car Campaign on automotive mercury releases to the environment in 2004.

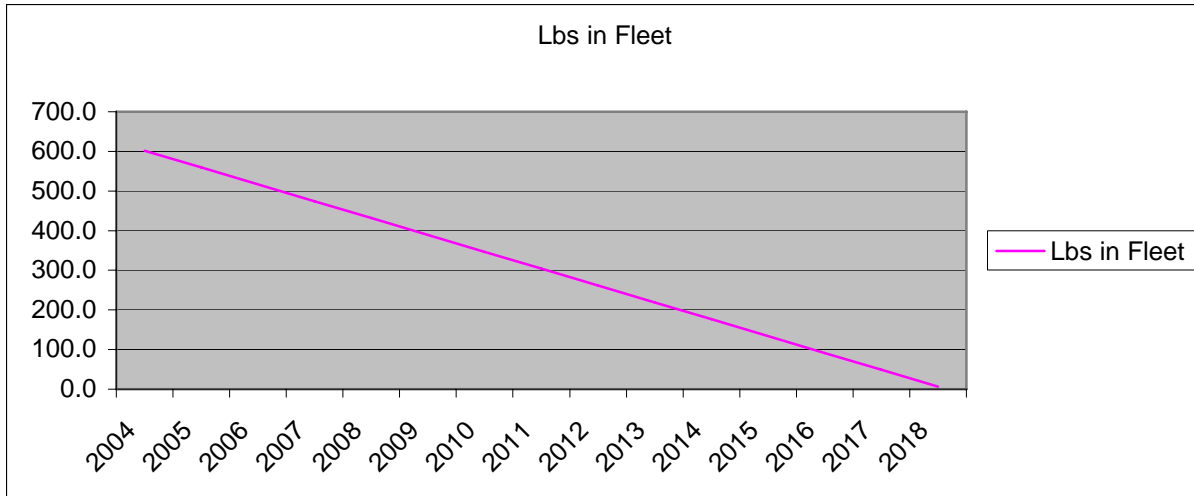
The Rhode Island Department of Environmental Management estimates that approximately 50,000 Rhode Island vehicles are retired annually. Based on a model developed by the Maine Department of Environmental Protection with input from industry representatives, DEM projects that approximately 602 lbs. of mercury remains in convenience light switches in vehicles registered in Rhode Island. These conservative projections are based on assumptions that each convenience light switch contains one gram of mercury, and that there are .6 switches per vehicle.

In addition to the cars registered in Rhode Island, independent auto recyclers and Metals Recycling process other cars from out-of-state. Metals Recycling LLC is in Johnston, Rhode Island where it operates a shredder and a 1000-ton shear. The company also operates an export terminal in the Port of Providence. Metals Recycling supplies domestic mills with scrap metal, primarily by rail, and exports scrap to many foreign destinations, including China, Korea, Malaysia, and Mexico.

Metals Recycling reports that they process approximately 20,000 cars a month. Approximately 60% to 70% of these cars arrive in a flattened (crushed) condition and removal of mercury switches would not be feasible. Approximately 50% of the cars are from in-state and 50% are from outside of Rhode island (mostly Connecticut and Massachusetts). Therefore, approximately 24,000 vehicles are in a condition from which Metals Recycling could recover mercury switches from out-of-state vehicles. The number of out-of-state vehicles processed by independent auto recyclers is unknown.

Overall from this pool of in-state and out-of-state vehicles, the subgroup estimates that 43 pounds of mercury are available per year to feasibly be collected from mercury switches in Rhode Island.

The following chart produced by DEM projects the amount of mercury available to be collected from convenience light switches from 2004 through 2017. These numbers are based on a projected 6.6% retirement rate.



Cost Analysis

The Maine Department of Environmental Protection’s January 2002 report, *Reducing Mercury Releases from Maine Motor Vehicles* (Appendix B) analyzed the costs of removing auto mercury components. The costs include labor, recycling, transportation, and safety measures. Maine calculated that program costs for removal and recycling of mercury light switches range from 40¢ to 90¢ per switch.

The New Jersey Department of Environmental Protection’s, March 2004 report, *Mercury Switch Data Collection Pilot Project* (Appendix D) found the total cost for mercury switch removal, handling, transportation, proper disposal and record keeping is conservatively estimated to be \$3.00 per switch.

However, these costs do not include an outreach and training program to ensure participation or administrative oversight by the state agency.

Early analysis of the implementation of Maine’s collection program has shown that another important aspect of the cost of the program to be considered is the need to provide an adequate incentive for auto recyclers to participate in the collection program. *Mercury Switch Removal from Motor Vehicles in Maine* (Appendix E) reports on the status of the first year of the implementation and recommends increasing the \$1 bounty currently offered by the state’s program. Legislation has been introduced in Maine to follow that recommendation.

Based on the Department’s estimates of the magnitude of the problem of mercury in auto parts, it is estimated that a collection and disposal program for mercury switches in Rhode Island would cost approximately \$200,000 per year.

Challenges to Collecting and Recycling Mercury-Containing Auto Parts in Rhode Island

The subgroup found that while infrastructure exists for collecting mercury switches through processors of end-of-life vehicles, the primary obstacle to collection is the need for an economic incentive to ensure participation in a collection program.

Auto recyclers and scrap recyclers acquire vehicles in various states of functionality such as insurance wrecks and end of live vehicles. Their only economic reward lies in their ability to extract value via the resale of parts and/or scrap. For example, the only value in an end of life vehicle might be its aluminum wheels, catalytic converter, and its scrap value. Aluminum wheels average \$9/wheel, catalytic converters average \$25, and a scrap body could net \$100 – 150 for a total average value of \$186. Because mercury-containing parts have no monetary value, there is no economic incentive to extract them from vehicles.

The need for an economic incentive derives from the negative value associated with the mercury. Unlike the other materials that are handled by licensed facilities, i.e. gas, batteries, anti-freeze, etc, mercury is a toxic chemical with no value.

Material	Value	Cost
Batteries	Resale or sold for scrap	n/a
Gas	Filtered and used in vehicles	n/a
Anti-Freeze	Used on-site, given to customers/ waste recyclers	n/a
Freon	R12 sold to recyclers	n/a
Tires	Resale to wholesale/retail customers,	Pay to remove scrap
Oils*	Burn in Waste Oil Furnace or sell to Oil Recyclers	n/a
Catalytic Converter	Resale to recyclers	n/a

*includes motor oil, transmission fluid, power steering fluid, and brake fluid.

The direct costs associated with mercury removal for the licensed auto recycler include:

- Training
- Removal of the switch assembly from hood and trunk, if applicable
- Removal of the pellet from the plastic housing
- Storage
- Transportation
- Record keeping
- Disposal

The indirect cost associated with mercury removal is the potential regulatory costs for handling and removal (OSHA, DEM, EPA), legal and penalty costs, and potential insurance rate hikes in liability and workers comp insurance.

There are 85 licensed auto recyclers in Rhode Island, and the average facility is a family enterprise employing less than 10 people. The scope of responsibility and liability for mercury recovery with little or no economic incentive is disproportionate to most auto recyclers' primary business function.

A major “indirect” component of the need for an economic incentive is to give the automakers a disincentive for including mercury-added products in their automobiles. By passing off the liability and penalties associated with the handling of mercury, the automakers have lessened their liability.

Non-hazardous mechanical switches were used for many years and yet the automakers introduced mercury switches into millions of automobiles. The legal and financial burden and responsibility for the removal of mercury switches from automobiles should not be put solely on the auto recyclers.

Current Requirements Regarding Mercury in Auto Parts

The Subgroup on Auto Parts would like to note its support for the following provisions in existing law to address mercury in auto parts:

Public education and outreach program: The Mercury Reduction and Education Act (RIGL 23-24.9-14) requires the DEM director to coordinate an education program regarding the hazards of mercury; the requirements and obligations of individuals, manufacturers, and agencies under this law; and voluntary efforts that individuals, institutions, and businesses can undertake to help further reduce mercury in the environment.

The subgroup also encourages other non-governmental organizations and interested parties to continue outreach and education efforts to inform the general public about opportunities to reduce the hazards of mercury pollution from auto parts.

Labeling of mercury in auto parts: The Mercury Reduction and Education Act (RIGL 23-24.9-8) requires that effective July 1, 2005, a manufacturer shall not sell at retail in this state or to a retailer in this state, and a retailer shall not knowingly sell, a mercury-added product unless the item is labeled pursuant to this subsection.

Phase out of mercury in auto parts: The Mercury Reduction and Education Act (RIGL 23-24.9-7) requires that no mercury-added product shall be offered for final sale or use or distributed for promotional purposes in Rhode Island if the mercury content of the product exceeds:

- (1) One gram (1000 milligrams) for mercury-added fabricated products or two hundred fifty (250) parts per million (ppm) for mercury-added formulated products, effective July 1, 2005;
- (2) One hundred (100) milligrams for mercury-added fabricated products or fifty (50) parts per million (ppm) for mercury-added formulated products, effective July 1, 2007; and
- (3) Ten (10) milligrams for mercury-added fabricated products or ten (10) parts per million (ppm) for mercury-added formulated products, effective July 1, 2009.

The law specifically notes that products that contain more than one mercury-added product as a component, the phase-out limits specified apply to each component and not the sum of the mercury in all of the components. The law states, “For example, for a car that contains mercury-added switches and lighting, the phase-out limits would apply to each component separately, and not the combined total of mercury in all of the components.”

Recommendations

1. **Recommendation – Establish a disposal ban and collection requirement for mercury switches at vehicle end of life.** The Rhode Island General Assembly should amend the Mercury Reduction and Education Act (RIGL 23-24.9) to establish a disposal ban and collection requirements for auto switches containing mercury. The collection requirement should establish performance criteria for the amount of mercury to be collected by the auto manufacturers on an annual basis. The legislation should specify that, if the capture rates are not met in a timely fashion, DEM shall adopt regulations to establish a manufacturer funded collection program.

In developing their plan to meet collection performance criteria, the auto manufacturers should note the wide range of opportunities to collect mercury components from both vehicles still in-use as well as at the end of the vehicle's use. The plan could include replacing switches at dealerships or safety/emissions inspections, fleet cleanings, as well as collection of switches by auto recyclers and scrap recyclers.

We recommend establishing “43 lbs.” as the target for the first two years and then require the Department of Environmental Management to set the target by for years thereafter. This target is reasonable based on our analysis of the magnitude of the problem of mercury in auto parts in Rhode Island (see page 6), and setting this specific target for the first two years would avoid an unnecessary delay in implementing the legislation

The subgroup recommends the following changes to the Mercury Reduction and Education Act regarding the collection of mercury-added products:

23-24.9-9 Disposal ban. – (a) After July 1, 2005, no person shall dispose of mercury-added products in a manner other than by recycling or disposal as hazardous waste. Mercury from mercury-added products may not be discharged to water, wastewater treatment, and wastewater disposal systems except when it is done in compliance with local, state, and federal applicable requirements.

(b) If a formulated mercury-added product is a cosmetic or pharmaceutical product subject to the regulatory requirements relating to mercury of the federal food and drug administration, then the product is exempt from the requirements of this section.

(c) This section shall not apply to: (1) anyone who disposes of a mercury-added button cell battery; or (2) ~~mercury-added components as contained in motor vehicles;~~ and (3) households disposing of lamps and products containing lamps.

(d) This section shall not apply to mercury-added components as contained in motor vehicles unless the Department promulgates regulations in accordance with 23-24.9-10 (e).

23-24.9-10 Collection of mercury-added products. (a) After July 1, 2005, no mercury-added product shall be offered for final sale or use or distribution for promotional purposes in Rhode

Island unless the manufacturer either on its own or in concert with other persons has submitted a plan for a convenient and accessible collection system for such products when the consumer is finished with them and the plan has received approval of the director. Where a mercury-added product is a component of another product, the collection system must provide for removal and collection of the mercury-added component or collection of both the mercury-added component and the product containing it.

(b) This section shall not apply to the collection of mercury-added button cell batteries or mercury-added lamps or products where the only mercury contained in the product comes from a mercury-added button cell battery or a mercury-added lamp; and

~~—(2) This section shall not apply to motor vehicles.~~

(2) Manufacturers of motor vehicles sold in Rhode Island that contain mercury switches shall, individually or collectively, establish and implement a collection program for mercury switches as follows:

a) In accordance with 23-24.9-9, the program shall be developed to meet the goal of collecting and recycling no less than 43 pounds of mercury from switches removed from motor vehicles per year for the calendar years 2006 and 2007. For following years, the Department shall review the goal and establish target collection rates for the program.

b) By September 1, 2005, submit a plan outlining the proposed collection program to the Department. At a minimum, the plan must:

i) Explain how the goal is anticipated to be met through implementation of the plan

ii) Ensure that mercury switches collected are managed in accordance with the universal waste rules adopted by the Department;

iii) 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;

iv) Make available to the public information concerning services to remove mercury light switches in motor vehicles

c) Implement said plan, with any adjustments or recommendations provided by the Department, by January 1, 2006.

d) Provide quarterly reports to the Department beginning March 31, 2006 on the number of switches collected and the amount of mercury collected and recycled through the program.

e) In the event that collections do not meet the goals of the program in any calendar year, the Department shall develop and implement regulations within six months compelling the manufacturers of motor vehicles sold in Rhode Island to undertake an alternative collection program. The total cost of the removal, replacement, collection, and recovery system for mercury switches shall be borne by the manufacturer or manufacturers. Costs shall include, but not be limited to the following: (1) labor to remove, or replace where possible, mercury switches. Labor shall be reimbursed at the prevailing rate auto manufacturers use to reimburse automotive dealers

for replacing faulty switches under the manufacturer-dealer warranty program; (2) training; (3) packaging in which to transport mercury switches to recycling, storage or disposal facilities; (4) shipping of mercury switches to recycling, storage or disposal facilities; (5) recycling, storage or disposal of the mercury switches; (6) public education materials and presentations; and (7) maintenance of all appropriate systems and procedures to protect the environment from mercury contamination.

2. Recommendation – Develop an education and training program regarding mercury removal.

A thorough education and training program would have the following objectives:

- 1) Train management of recovery facilities as to their company’s responsibility for removing mercury switches and cooperating in the program
- 2) Provide hands-on training for employees removing and handling the switches.

The following aspects of mercury recovery should be included in any training program:

- Responsibility
- Identification
- Safety
- Removal/Handling
- Record Keeping
- Storage
- Cleaning Up Mercury Spills
- First Aid Measures
- Transportation

An effective program would make use of existing resources from states and agencies that have already developed materials including those available in New York (Appendix F) and Maine. Specific funding will need to be available to implement an outreach and education program.

3. Recommendation – Develop Rhode Island Auto Mercury Pollution Prevention Awards Program. A wide variety of Rhode Island businesses, industries, organizations, and non-profits play a key role in protecting Rhode Island’s environment. This is especially true when it comes to removing mercury (e.g. switches and other mercury components) from automobiles before final disposal (e.g. dismantled and shredded). Some companies and organizations are already making an effort to remove mercury from cars – but more can be done to help eliminate mercury releases from end-of-life vehicles (ELVs).

In an effort to encourage greater participation in mercury reduction and elimination programs by Rhode Island businesses which handle ELVs, the State should develop an annual awards program for businesses, institutions, government agencies, or individuals who have made significant strides in the field of reducing mercury pollution from vehicles. Award recipients will have demonstrated a commitment to the environment and the health and public safety of Rhode Island residents.

Any person, company, or organization in the state may apply for the award or be nominated. This includes business and industry, educational institutions, local governments, state and federal agencies and public utilities. Work must have been done in the State of Rhode Island and may not have been completed more than 1 year prior to the nomination, although the work may have spanned any number of years.

Winning projects should have achieved significant and practical reductions in the use, release or generation of mercury intended for use in vehicles – including product development, improvements in process or procedure, substitution of different materials for mercury in vehicles, technological modifications, or improved management practices.

4. **Recommendation – Any of the above changes to current Rhode Island law should maintain an enforcement mechanism consistent with the Mercury Reduction and Education Act (RIGL 23-24.9-16).** The current law requires that a violation of any of the provisions of this law or any rule or regulation promulgated pursuant thereto shall be punishable, in the case of a first violation, by a civil penalty not to exceed one thousand dollars (\$1,000). In the case of a second and any further violations, the liability shall be for a civil penalty not to exceed five thousand dollars (\$5,000) for each violation.
5. **Recommendation – The state should consider defaulting to a comparable national program should it be developed.** In the event that a national program is developed to address collection of mercury from auto parts, the Department of Environmental Management should consider opting into the national program, provided it is consistent with the purposes and policies of Rhode Island’s current auto mercury requirements. A regional or national strategy to address the problem of mercury in vehicles should be encouraged and promoted.

Other Options Considered

The Subgroup on Auto Parts considered but rejected the possibility of a state-funded switch removal and collection program developed by DEM as well as the possibility of a mandate for the auto recyclers to collect mercury switches without providing an economic incentive. By reviewing programs from other states, and in consultation with recyclers in Rhode Island, the subgroup determined that an economic incentive would be a critical component for implementing an auto mercury switch collection program.

The end-of-life auto dismantling system works on the basis of incentives: removing parts for their re-sale or bounty value. The payment for mercury switches is a necessary market incentive to encourage auto recyclers to collect mercury switches. Trying to enforce their collection without this incentive would be unwieldy to enforce for DEM and an unfunded burden on the auto recyclers.

Additionally, the State has no financial means to cover the budget for the proper collection and disposal of these mercury components.

Lastly, the resolution passed by both houses of the General Assembly recommends a producer responsibility model. The resolution notes that a system of producer responsibility for the collection and recycling of mercury-added auto parts is the most effective and equitable means of keeping this toxic waste out of the waste stream and environment, while also providing a powerful incentive for manufacturers to reduce toxins and re-design products for recycling. The following recommendations follow that model.

Appendices

Appendix A

Rhode Island General Assembly resolutions “respectfully urging the Mercury Reduction Oversight Commission to prevent mercury pollution from auto parts”

<http://www.rilin.state.ri.us/Billtext/BillText04/HouseText04/H8639.pdf>

Appendix B

**Reducing Mercury Releases from Maine Motor Vehicles
Report from the Maine Department of Environmental Protection**

January 2002

<http://mainegov-images.informe.org/dep/rwm/mercury/pdf/Auto%20Releases.pdf>

Appendix C

Mercury in Vehicles Update

Clean Car Campaign Report April 2004

<http://www.cleancarcampaign.org/releases/20040407mercury.shtml>

Appendix D

Mercury Switch Data Collection Pilot Project

New Jersey Department of Environmental Protection Report March 2004

<http://www.state.nj.us/dep/dsr/hg-switch/index.htm>

Appendix E

**Status Report (January 2004): Mercury Switch Removal From Motor Vehicles in Maine
Maine Department of Environmental Protection**

<http://mainegov-images.informe.org/dep/rwm/publications/legislativereports/pdf/finalreport.pdf>

Available Resources Regarding Mercury in Auto Parts

- 1. Maine DEP Report (January 2002): Reducing Mercury Releases From Maine Motor Vehicles**
Maine Department of Environmental Protection's (DEP) initial report from 2002 from their stakeholders group to develop a plan to address mercury from auto parts. The group included representatives from agency staff, auto manufacturers, auto recyclers and environmentalists. It is called: A Plan to Reduce Mercury Releases from Motor Vehicles in Maine.
<http://www.state.me.us/dep/rwm/mercury/pdf/Auto%20Releases.pdf>
- 2. Maine Mercury Motor Vehicle Law As Adopted by the Maine Legislature**
<http://janus.state.me.us/legis/statutes/38/title38sec1665-A.html>
- 3. The Compliance Plan from the Alliance of Automobile Manufacturers (AAM) (as approved by the Maine DEP)**
<http://janus.state.me.us/legis/statutes/38/title38sec1665-A.html>
- 4. Judgements from the AAM lawsuit against the state of Maine**
Magistrate Judge Kravchuk's recommendation providing an analysis rejecting the automakers' claims:
http://www.med.uscourts.gov/Site/opinions/kravchuk/2003/MJK_07172003_1-02cv149_Alliance_v_Kirkpatrick_AFFIRMED_02172004.pdf.

The second is the Judge Woodcock's affirmance of the initial judgment:
http://www.med.uscourts.gov/Site/opinions/woodcock/2004/JAW_02172004_1-02cv149_ALLIANCE_V_KIRKPATRICK.pdf
- 5. Mercury Switch Removal from Motor Vehicles**
The Maine DEP's report about the progress of the first year and survey of the auto recyclers about the implementation.
[Status Report \(January 2004\): Mercury Switch Removal From Motor Vehicles in Maine](#)
- 6. The Mercury Free Vehicle Act**
This bill has been introduced by Rep. Peter Ginaitt and Sen. Dominick Ruggerio to address mercury in auto parts. The General Assembly decided not to take action on these bills until getting a report from the Mercury Reduction Oversight Commission. The House version of the bill is available online at: <http://www.rilin.state.ri.us/Billtext/BillText04/HouseText04/H7179.pdf>

General Assembly House and Senate resolutions, "respectfully urging the Mercury Reduction Oversight Commission to prevent mercury pollution from auto parts."
<http://www.rilin.state.ri.us/Billtext/BillText04/HouseText04/H8639.pdf>
<http://www.rilin.state.ri.us/Billtext/BillText04/SenateText04/S3209.pdf>
- 7. NEWMOA**
Northeast Waste Management Officials' Association
www.newmoa.org
- 8. IMERC**
Interstate Mercury Education and Reduction Clearinghouse
<http://www.newmoa.org/Newmoa/htdocs/prevention/mercury/imerc.cfm>
- 9. NESCAUM**
Northeast States for Coordinated Air Use Management
www.nescaum.org

10. Mercury in Vehicles Update

Clean Car Campaign report on automotive mercury releases to the environment state-by-state.
<http://www.cleancarcampaign.org/>

11. Partnership for Mercury Free Vehicles letter to policy makers supporting the Mercury-Free Vehicle Act

The Partners are: Automotive Recyclers Association / Clean Car Campaign / Clean Production Network / Great Lakes United / Ecology Center / Environmental Defense / Institute of Scrap Recycling Industries, Inc. / Mercury Policy Project / Steel Manufacturers Association / Steel Recycling Institute
<http://www.cleancarcampaign.org/>

12. Removal and Replacement of Mercury Switch in 1970-1988 GM Hood and Trunk Lighting Assembly (instructions with photographs)

www.cleancarcampaign.org

13. State of Vermont 2000-2003 Mercury Use by Model Data, Updated April, 2003

www.cleancarcampaign.org/mercury.shtml

14. States Call For Removal of Toxic Car Part: Attorneys General Say Mercury Light Switch Poses Major Environmental Hazard.

Media statement from A.G. Eliot Spitzer and 25 other attorneys general and Attorneys General letters to Ford Motor Company. www.cleancarcampaign.org

15. U.S. EPA page on Auto Mercury Switch Removal

This page contains links to information related to automotive mercury, including:
Information on how to find, remove, and replace mercury switches used in convenience lighting in various types of vehicles; <http://www.epa.gov/region5/air/mercury/#remove>
Guidance from New York State Department of Environmental Conservation (NYSDEC) on regulatory issues related to auto mercury switch removal; <http://www.epa.gov/region5/air/mercury/#guidance>
Information about NYSDEC programs to promote proper management of mercury-containing switches in autos. <http://www.epa.gov/region5/air/mercury/#programs>
Information on this page was supplied by NYSDEC, as well as by the Auto Alliance.
<http://www.epa.gov/region5/air/mercury/autoswitch.htm>

16. In-Service Mercury Switch Review

Michigan report recommending using scrap yards to remove switches rather than having automakers conduct a recall.
<http://www.deq.state.mi.us/documents/deq-ess-p2-mercury-InServiceReview.pdf>