SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: Transportation Committee

BILL:	SB 2446
INTRODUCER:	Senator Alexander
SUBJECT:	Management of Mercury Switches in Vehicles
DATE:	April 11, 2006
REVISED:	4/19/06

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Branning	Kiger	EP	**Favorable**
2.	Woods	Meyer	TR	**Fav/1 amendment**
3.			GA	
4.				
5.				
6.				

Please see last section for Summary of Amendments

- [ ] Technical amendments were recommended
- [ ] Amendments were recommended
- [X] Significant amendments were recommended

I. Summary:

Senate Bill 2446 establishes many requirements in relation to mercury switch removal from vehicles. This bill:

- Creates the "Mercury Switch Recovery Act."
- States the legislative intent is to reduce mercury in the environment by creating a program to remove mercury switches from end-of-life vehicles.
- Defines the terms: end-of life-vehicle, manufacturer, mercury minimization plan, mercury switch, person, scrap recycling facility, vehicle, and vehicle recycler.
- Requires manufacturers to submit a mercury minimization plan to the Department of Environmental Protection (DEP) and establishes minimum requirements for such a plan.
- Provides a time limit (within 120 days of receipt of the plan) in which the DEP must evaluate and approve or disapprove parts of the plan or the submitted plan in its entirety.
- Provides guidelines for approval or disapproval of submitted plans and permits DEP to consult with scrap recycling facilities or vehicle recyclers in relation to the submitted plan.
- Authorizes DEP to request modification of an approved plan or part of an approved plan and provides a time limit (60 days) in which a manufacturer has to comply with the modification requests.

- Provides guidelines for the scrap recycling facilities, vehicle recyclers, and any other entity authorized to remove mercury switches.
- Provides protection for those who receive end-of-life vehicles after they have been crushed, flattened, or baled and still contain the mercury switches.
- Prohibits persons (as defined in the bill) from saying a switch has been removed if it has not.
- Requires manufacturers to submit two annual reports relating to mercury switch removal, procedural compliance to the approved plan, general statistics and information about the adopted mercury minimization program.
- Authorizes DEP to conduct evaluative hearings to analyze manufacturer's processes.
- Directs the manufacturers in charge of implementing mercury minimization plans to pay five dollars to all scrap recycling facilities and vehicle recyclers per each mercury switch collected and shipped by that entity, and one dollar to DEP per switch collected.

II. Present Situation:

Mercury is a naturally occurring element found in air, water and soil. Mercury exists in several forms: elemental or metallic mercury, inorganic mercury compounds, and organic mercury compounds. Elemental or metallic mercury is a shiny, silver-white metal and is liquid at room temperature. It is used in thermometers, fluorescent light bulbs and some electrical switches. Inorganic mercury compounds take the form of mercury salts and are generally white powder or crystals. Inorganic mercury compounds have been included in products such as fungicides, antiseptics or disinfectants. Organic mercury compounds, such as methylmercury, are formed when mercury combines with carbon. Microscopic organisms convert inorganic mercury into methylmercury, which is the most common organic mercury compound found in the environment. Methylmercury accumulates up the food chain.[1]

There are two major usages of mercury switches in vehicles: convenience lighting tilt switches and anti-lock braking system (ABS) control module switches. Lighting switches constitute about 90 percent of the switches in use and ABS control module switches the remaining 10 percent. While foreign automobile manufacturers never used mercury switches, the big three U.S. automobile manufacturers did use mercury switches until phasing them out completely after the 2003 model year. There are non-mercury alternatives available for these mercury switch applications in use in cars manufactured after 2003.[2]

The mercury in these switches becomes a problem when vehicles are retired from use. Mercury is released during vehicle shredding and the steel/smelting processes. The vehicles most affected by all of these switch-removal programs are passenger cars and trucks. A small percentage of the switch removal programs also address commercial trucks. The switch removal programs focus on removing hood-light and trunk-light switches. Vanity-light switches and ABS-sensor switches are also frequently targeted.[3]

[1] www.epa.gov/mercury/faq.htm#1
[2] Department of Environmental Protection Draft Bill Analysis 2006 for SB 2446
[3] 2005 Compendium of State Mercury Activities Report found at www.ecos.org/section/2005_mercury_compendium

Section 403.7186(2), F.S., prohibits the incineration of mercury-containing devices and the knowing disposal of such devices in a landfill. Such devices would include mercury switches removed from automotive vehicles. In July 2002, the Department of Environmental Protection (DEP) initiated an innovative pilot project aimed at the environmentally troubled auto salvage yards industry. The pilot project was called "Green Yards." The Green Yards Program was developed in cooperation with the Florida Auto Dismantlers and Recyclers Association (FADRA) and with James Environmental, which was under contract with DEP.[4] The Green Yards Program teaches salvage yards to use voluntary best management practices, including the removal and proper management of mercury vehicle switches.

As of January, 2006, 10 states have enacted legislation pertaining to the removal of mercury switches from scrap vehicles. Six states (AR, ME, NJ, NC, PA, and RI) provide financial incentives for switch removal and removal is mandatory except in Pennsylvania. Four other states (CO, MI, MN, and TX) do not provide financial incentives for switch removal and removal is voluntary except in Minnesota. At least 11 other states have proposed such legislation according to the Environmental Council of the States (ECOS) Quicksilver Caucus 2005 Compendium of State Mercury Activities.

On March 8, 2006, the American Iron and Steel Institute issued a press release announcing representatives from the vehicle manufacturers, steelmakers, vehicle dismantlers, vehicle shredders, the environmental community, the states and the U.S. Environmental Protection Agency reached a tentative agreement on a statement of principles detailing the elements of a voluntary national program for recovering mercury switches from scrap cars and light trucks before they are shredded for recycling. The parties are now working to complete a formal agreement.[5]

The End-of-Life Vehicle Solutions Corporation (ELVS) was created by the automotive industry in 2005 to advance environmental efforts in the areas of vehicle recyclability, education and outreach, and the proper management of substances of concern from end-of-life vehicles. The ELVS members include BMW of North America, LLC; Daimler-Chrysler Corporation; Ford Motor Company; General Motors Corporation; Mitsubishi Motors North America, Inc.; Nissan North America, Inc.; Subaru of America, Inc.; and Volkswagen of America, Inc.

The ELVS Corporation will:

- Identify vehicle recyclers and scrap recyclers and invite their participation;
- Provide participants with collection containers for collecting and storing vehicle mercury switches;
- Provide educational materials about the program, guidance on which vehicles contain mercury switches, and instructions on how to remove mercury switches;
- Arrange and pay for the transportation of the switches;
- Arrange and pay for the recycling of the mercury; and
- Track participation and mercury collection progress.

Alternatives to Mercury Switches

[4] www.dep.state.fl.us/secretary/news/2002/02-045salvage_yard.htm
[5] www.steel.org/AM/Template.cfm?Section=Home&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=13053

In an effort to reduce mercury in the environment, many manufacturers have joined forces to discover ways of driving the need for mercury out of their products and designs. Product design changes, even if very small, can potentially be extremely expensive or cost-ineffective to makers of the products. Implementing alternatives to some forms of mercury switches could be considered unreasonable. However, there are many cost effective alternatives to the many forms of mercury switches, in particular, the tilt switches used in the anti-lock brake system (ABS) in some automobiles. Some alternatives include: metallic ball, electrolytic, potentiometers, mechanical switch, solid-state, and capacitive tilt switches.[6] Not all alternatives listed are applicable to an automobile's ABS. The cost-effectiveness of implementing a design change is more complex than just an alternative by itself.

III. Effect of Proposed Changes:

This bill creates s. 403.7187, F.S., the Mercury Switch Recovery Act. The purpose of the act is to reduce mercury in the environment by removing mercury switches from end-of-life vehicles and by creating a program to collect and recover mercury switches removed from end-of-life vehicles in Florida.

The bill defines the following terms: "department," "end-of-life vehicle," "manufacturer," "mercury minimization plan," "mercury switch," "person," "scrap recycling facility," "vehicle," and "vehicle recycler."

By October 1, 2006, each manufacturer shall, individually or as part of a group of manufacturers, submit a mercury minimization plan to DEP. The plan must be developed in consultation with the DEP and must, at a minimum, include:

- For each vehicle that contains one or more mercury switches, a description of:
  - The make, model and year of the vehicle.
  - Each mercury switch in the vehicle, including, but not limited to, the location of the switch. If a manufacturer is uncertain whether a convenience light switch assembly in a vehicle that such manufacturer is producing, or plans to produce, contains a mercury switch, such switch is presumed to be a mercury switch.
  - A system to mark the vehicle to indicate the presence or absence of each mercury switch to a vehicle recycler or scrap recycling facility that may process the vehicle for shredding or crushing.

- A description of the safe and environmentally sound methods for removing mercury switches from end-of-life vehicles.
- Educational materials to assist a vehicle recycler or scrap recycling facility in undertaking a safe and environmentally sound method for the removal of mercury switches from end-of-life vehicles, including, but not limited to, a method of packaging and shipping the

[6] "An investigation of Alternatives to Mercury Containing Products", Catherine Galligan, Gregory Morose, Jim Giordani; (January 22, 2003)

switches to a facility that is authorized to recycle, store, or dispose of them in an environmentally appropriate manner.

- A recommended method for storing the mercury switches that are removed from end-of-life vehicles if a technology to manage the switches in an environmentally appropriate manner is unavailable.
- Provisions to ensure existing standards to recycle end-of-life vehicles are used to the extent practicable. A plan that does not use such existing infrastructure must state reasons for establishing a separate infrastructure.
- A recommended method of implementing the plan.
- A recommended method of financing the plan which includes financing by each manufacturer. The method must ensure prompt payment to vehicle recyclers, scrap recycling facilities, and DEP for the costs associated with the removal and disposal of mercury switches, which method includes, but is not limited to, payment in the amounts specified in this bill.

Within 120 days after receipt of a mercury minimization plan, DEP shall approve or disapprove the plan in whole or in part. DEP may approve a plan or part only when it has reasonable assurance implementation of the plan or part will, in a manner that is environmentally safe, result in removal of mercury switches from end-of-life vehicles and creation of a program to collect and recover the mercury switches that are removed. A plan or part not disapproved within the 120-day period is deemed approved subject to any modifications required by DEP. DEP may consult representatives of vehicle recyclers, scrap recycling facilities, or other stakeholders concerning a plan under review. Within 30 days after approval of the plan or part, each manufacturer submitting the plan shall begin implementation of the approved part of the plan. If all or part of a mercury minimization plan is disapproved, DEP shall provide written comments stating the reasons for the disapproval, and each manufacturer submitting the disapproved plan or part shall, alone or as a group of manufacturers, submit a revised plan or part consistent with DEP's comments. If a plan or part is not approved on or before March 1, 2007, DEP shall establish a final approved plan or part, and each manufacturer, within 30 days after such establishment, shall begin, and thereafter shall continue, implementation of the approved plan or part.

DEP may request modification of an approved mercury minimization plan under certain conditions.

Beginning 30 days after approval of each mercury minimization plan, a vehicle recycler that sells, gives, or otherwise conveys ownership of an end-of-life vehicle identified in the plan to a scrap recycling facility must remove each mercury switch from the vehicle before delivery to the facility. A mercury switch that is inaccessible due to significant damaged to the area surrounding the switch need not be removed before delivery to a scrap recycling facility if the damage is noted on the normal business records of the vehicle recycler. A scrap recycling facility may accept delivery of the vehicle when the mercury switch has not been removed if the vehicle has not been intentionally flattened, crushed, or baled.

The vehicle recycler or scrap recycling facility must maintain records of the make of each vehicle from which a mercury switch has been removed and the number of switches collected. These records must be made available to DEP upon request.

The vehicle recycler or scrap recycling facility must ensure the switches are collected, stored, transported, and handled in accordance with the approved mercury minimization plan and DEP's rule 62-730.185, F.A.C.

A person who receives an end-of-life vehicle that has been intentionally flattened, crushed, or baled is not in violation of these provisions if a mercury switch is found in the vehicle after receipt.

DEP may discontinue the annual report if it finds mercury switches no longer pose a significant threat to the environment or to public health.

Each manufacturer, or group of manufacturers, must submit an annual report to DEP starting one year after the mercury minimization plan is approved. The plan must contain these specified items:

- A statement of the number of mercury switches collected, the number of end-of-life vehicles processed for recycling, and the number of such vehicles containing mercury switches.
- A description of how the switches have been managed.
- A description of the amounts paid to cover the costs of implementing the plan.

Also, each manufacturer, or group of manufacturers, must submit an annual report concerning the steps being taken by manufacturers to design vehicles and components for recycling. The report must contain:

- A list of each component containing a mercury device in each manufactured or imported vehicle for the current model year, the next model year, and each of the prior three model years.
- The design changes made or being made to eliminate mercury usage in each vehicle described in the first required list and the year the mercury component will be removed from that design.
- The policies and practices implemented for safe removal of mercury devices.
- A list of (1) Any complaint or report received from any vehicle recycler or scrap recycling facility that may process the vehicle for shredding or crushing; (2) Any information relating to any design feature potentially posing a threat to the environment and or public health or makes the vehicle uneconomical to recycle; (3) Design changes made or being made to eliminate such a threat and the year the risk will be effectively eliminated.

Each manufacturer is required to promptly pay $5 to the recycler for each switch the recycler has removed as partial compensation for the labor and other costs. Also, each manufacturer must pay $1 to DEP for each mercury switch removed by the recycler. In addition, the manufacturers must reimburse each recycler for expenses incurred in recycling, storing, or disposing of mercury switches, including, but not limited to, expenses to ship switches to recycling, storage, or disposal facilities, to purchase packaging in which to transport the switches, or to prepare or distribute educational materials required to vehicle recyclers and scrap recycling facilities.

By August 1, 2006, the manufacturers must provide to each vehicle recycler and scrap recycling facility one or more containers in which to store the removed mercury switches until the vehicle recyclers are reimbursed.

The manufacturers shall indemnify, defend, and hold harmless each vehicle recycler and scrap recycling facility for any liability arising from the release of the mercury from the mercury switches after the switches are transferred to the manufacturer or an agent of the manufacturer or a person under contract with the manufacturer.

DEP shall adopt rules to administer these provisions.

This act would take effect July 1, 2006.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Economic Impact and Fiscal Note:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Vehicle manufacturers would be required to pay a total of $6 per mercury switch removed from an end-of-life vehicle. ($5 to the recycler, $1 to DEP) The annual cost to the manufacturers has been estimated at between $430,000 and $2.2 million. This is assuming the annual number of switches removed is between 72,000 and 129,000.[7]

In addition, the manufacturers are required to pay for the transportation and recycling of the switches removed. Manufacturers would have to provide containers for the temporary storage of the removed mercury switches. The estimated transportation costs are between $720 and $22,200, depending on recycling costs and quantity of mercury switches removed. Florida has approximately 800-900 vehicle recyclers.[8]

[7] Department of Environmental Protection Draft Bill Analysis, 2006 – SB 2446.
[8] Id.

The vehicle recyclers would benefit because much of their costs to remove and recycle these mercury switches would be paid for by the vehicle manufactures.

The true expenses of implementing this plan are unclear as there are many variables affecting the actual cost of implementation.

It is unclear in the bill what the mechanism is for payment to the vehicle recyclers from the manufacturers. Also, it is unclear as to when payment is due. Enforcement of these provisions is unclear as no penalties are provided for.

C. Government Sector Impact:

DEP is required to review and approve the mercury minimization plans. To compensate DEP for this program, the vehicle manufacturers must pay the DEP $1 per mercury removed from the vehicle. This could provide estimated revenues to DEP of between $72,000 and $129,000. It is unclear when the vehicle manufacturers would remit this revenue to DEP. It is also unclear as to how this provision would be enforced. Much of the information to be included in some of the required reports is not related to environmental protection. Descriptions of some of the requirements are extremely broad and may prove difficult to enforce.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Summary of Amendments:

Barcode 201850: This amendment deletes all language in the existing bill and adds provisions which:

- Create the "Florida Vehicle Mercury Switch Recovery Act."
- State the legislative intent of this act as: "to reduce mercury in the environment by removing the mercury switches from end-of-life vehicles and creating a program to recover mercury switches that are removed from end-of-life vehicles in this state."
- Define the terms: "department", end-of-life vehicle", "End-of-life Vehicles Solutions Program", "manufacturer", "mercury switch", "National Mercury Switch Recovery Program", "person", "scrap recycling facility", "vehicle", and "vehicle recycler".
- Provides for manufacturers to (by the date of September 1, 2006), in conjunction with the Florida Department of Environmental Protection: (1) identify the scrap recycling facilities in the State of Florida and invite them to participate in the End-of-Life Solutions Program; (2) provide these scrap recycling facilities educational materials about the program and guidance as to which vehicles contain mercury switches; (3) provide mercury switch collection containers and arrange payment for the shipment of such containers to federally approved disposal sites; (4) pay for the disposal and recycling of mercury contained in the collected mercury switches; and (5) track participation in the End-of-Life Vehicle Recovery Program and the mercury switch collection process.
- Provide for this act to stand repealed upon the earlier of the two following dates: (1) the date on which the National Vehicle Mercury Switch Recovery Program takes effect; or (2) July 1, 2016.
- Provides an effective date of July 1, 2006.