

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 1307 Management of Mercury Switches in Vehicles
SPONSOR(S): Sands and others
TIED BILLS: **IDEN./SIM. BILLS:** SB 2446

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1) Environmental Regulation Committee		Perkins	Kliner
2) Finance & Tax Committee			
3) State Resources Council			
4) _____			
5) _____			

SUMMARY ANALYSIS

The bill's purpose is to reduce mercury contamination in the environment by removing mercury switches from end-of-life vehicles¹ and by creating a new regulatory program within the Department of Environmental Protection (DEP) to collect and recover mercury switches that are removed from end-of-life vehicles. The bill requires vehicle manufacturers to implement a plan for the proper management of these switches and to pay vehicle recyclers and DEP for each switch that is removed and recycled.

Fiscal Impact: The bill provides vehicle manufacturers to pay DEP \$1 per switch for program administration costs. The target capture rate in the legislation is 90 percent of mercury switches. If 90 percent of the mercury switches estimated to be in vehicles are scrapped annually, an estimated 260,000 to 370,000 switches could be removed and collected. This would yield annual revenues to the state of between \$260,000 and \$370,000.

¹ End-of-life vehicle means a vehicle that is sold, given, or otherwise conveyed to a vehicle recycler or scrap recycling facility for recycling.

This document does not reflect the intent or official position of the bill sponsor or House of Representatives.

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FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. HOUSE PRINCIPLES ANALYSIS:

Provide Limited Government: The bill establishes a new regulatory program within DEP to collect and recover mercury switches that are removed from end-of-life vehicles. DEP program administration would be managed by existing staff.

Ensure Lower Taxes: The bill requires vehicle manufacturers to pay \$6 for each mercury switch that is removed (\$5 to vehicle recyclers + \$1 fee to DEP) which is estimated to cost between \$1,560,000 and \$2,220,000 depending on the quantity of switches removed.

Safeguard Individual Liberty: The bill establishes a new regulatory program within DEP to collect and recover mercury switches that are removed from end-of-life vehicles. The private sector would benefit from reduced mercury emissions from the scrap recycling facilities resulting in improved public health and protection of the environment

Promote Personal Responsibility: The bill requires vehicle manufacturers to pay \$6 for each mercury switch that is removed (\$5 to vehicle recyclers + \$1 fee to DEP) which is estimated to cost between \$1,560,000 and \$2,220,000 depending on quantity of switches removed.

B. EFFECT OF PROPOSED CHANGES:

Mercury Switches

Mercury is a naturally occurring element that is found in air, water and soil. It exists in several forms: elemental or metallic mercury, inorganic mercury compounds, and organic mercury compounds. Humans cannot create or destroy mercury. Pure mercury is a liquid metal, sometimes referred to as quicksilver that volatilizes readily. It has traditionally been used to make products like thermometers, switches, and some light bulbs. Burning hazardous wastes, producing chlorine, breaking mercury products, and spilling mercury, as well as the improper treatment and disposal of products or wastes containing mercury, can also release it into the environment.²

There are two major usages of mercury switches in automobiles: 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 such mercury switches, the U.S. 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 that are in use in cars manufactured after 2003.³

Section 403.7186(2), F.S., prohibits the incineration or disposal of mercury-containing devices, including mercury switches removed from vehicles. DEP's Green Yards Program, developed in connection with the Florida Auto Dismantlers and Recyclers Association (FADRA), teaches salvage yards to use voluntary Best Management Practices, including the removal and proper management of mercury vehicle switches. DEP has several compliance assistance documents that address the removal and proper management of these 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, RI) provide financial incentives for switch removal and removal is mandatory except in Pennsylvania. Four other states (CO, MI, MN, TX) do not provide financial incentives for switch

² <http://www.epa.gov/mercury/about.htm>

³ 2006 DEP HB 1307 Bill Analysis

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.

Electric arc furnace operators⁴ that smelt scrap steel will be subject to the U.S. Environmental Protection Agency's (EPA) proposed rule on stricter mercury emissions limits for electric arc furnace operations, which is currently targeted for proposal later in 2006 and final adoption in 2007. Much of the feedstock of these facilities is automobile scrap, some of which currently contains mercury vehicle switches that produce mercury emissions from the furnaces. According to DEP's Division of Air Resources Management, there are two electric arc furnaces in Florida (Jacksonville and Archer). The Jacksonville facility is known to receive and process many scrap vehicle hulks from Florida vehicle recyclers.

National Vehicle Mercury Switch Recovery Program:

On March 7, 2006 representatives from the vehicle manufacturers, steelmakers, vehicle dismantlers, vehicle shredders, environmental community, states and the U.S. Environmental Protection Agency (US EPA) reached agreement on a statement of principles detailing the elements of a 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. It is not clear how states with legislative or voluntary vehicle switch removal programs will be able to participate in the national program as the program in its present conceptual form is for states that have no legislative or voluntary switch removal programs.⁵ The statement of principles detailing the elements of a national program for recovering mercury switches from scrap cars and light trucks before they are shredded for recycling is listed below:

National Mercury Switch Recovery Program Statement of Principles for Agreement

March 7, 2006

Final Version

1. The parties are committing to create the National Mercury Switch Recovery Program (NMSRP). They agree that recovery of mercury switches prior to crushing and shredding of end-of-life vehicles is the most effective way in which to reduce mercury which otherwise would be emitted into the environment.
2. The NMSRP is a collaborative program involving the vehicle manufacturers, steelmakers, vehicle dismantlers, vehicle crushers, auto shredders, brokers, environmental community, state representatives and the US EPA.
3. The goal of the NMSRP is to significantly reduce air emissions of mercury from steel making facilities that utilize auto shred by substantially reducing the number of mercury-containing switches in scrap automobiles before they are crushed and shredded for recycling.
4. Vehicle manufacturers will have the lead responsibility for providing information, education, and outreach regarding switch removal. They are responsible for collection of switches and transporting them to retorters for proper recycling or disposal and will assume liability for the switches once they are collected. They will also establish a database to track switch recovery by program participants and help evaluate overall program performance.
5. Participating dismantlers and others processing end-of-life vehicles will recover mercury switches and submit them to the Program.
6. Steelmakers will strongly encourage their suppliers and others in the supply chain to support and participate in the NMSRP. In anticipation of EPA's proposed steel industry Area Source and other regulations (e.g. Iron and Steel MACT rule) that will require steelmaking facilities to reduce mercury in

⁴ "scrap recycling facilities" under the proposed legislation

⁵ Id.

scrap feedstock by developing and implementing scrap work practice standards, individual steelmakers will take steps consistent with such regulatory requirements and the NMSRP to minimize the presence of mercury in auto shred. These steps include notifying relevant suppliers that such individual steelmakers, pursuant to the program, intend to utilize in their respective operations, to the maximum extent possible, scrap from which mercury switches have been removed and to adapt their respective purchasing practices to that end.

7. All organizational participants in the NMSRP will support implementation of the Program through public endorsements and by encouraging their members to participate.

8. The US EPA will take the NMSRP into serious consideration when developing an area source regulation for Electric Arc Furnaces (EAFs) and other relevant regulations.

9. The vehicle manufacturers and steelmakers will create a three-year, \$4 million dollar implementation fund in support of the Program. They each will contribute half of the funding and no additional funding for this fund is required or contemplated. The fund will support the implementation of the NMSRP through incentive payments to those recovering switches.

10. Aggressive mercury recovery goals and programmatic performance metrics have been identified for the Program. Performance will be assessed on a regular basis by all of the participating parties. Participants will work to continuously enhance the Program's performance on an ongoing basis.

11. In each state where the NMSRP is being implemented, the parties to this agreement will work collaboratively to develop an implementation plan that will provide for regular evaluation of progress and mid-course corrections to improve performance.

12. The NMSRP will be implemented until 2017 based on estimates that 90% of the vehicles containing mercury switches will be retired by that time. If the mercury switch issue becomes an insignificant contribution to the environment before that time, the program may end. If the mercury switch issue continues to be significant after that date, the program may be extended.

Effect of Proposed Change

The bill creates section 403.7187, F.S., and is cited as the "Mercury Switch Recovery Act" The purpose of the bill is to reduce mercury contamination in the environment by removing mercury switches from end-of-life vehicles and by creating a program to collect and recover mercury switches that are removed from end-of-life vehicles in Florida. The bill provides various definitions relating to mercury switches and the scrap recycling industry for vehicles.

Mercury Minimization Plan

The bill requires by October 1, 2006, each manufacturer to submit a mercury minimization plan to DEP for review and approval. The plan must be developed in consultation with DEP and include components for each vehicle that contains one or more mercury switches that was produced, is in production, or is planned for production, to include:

- Vehicle make, model, and year of production
- Location of each mercury switch
- System to mark the vehicle to indicate to the recycler or scrap recycling facility if the vehicle contains a mercury switch
- Description of safe and sound methods for removing mercury switches from end-of-life vehicles
- Educational materials to assist a vehicle recycler or scrap recycling facility on the safe removal methods for mercury switches
- Recommend method for achieving a capture rate of at least 90 percent of mercury switches unless the switch is inaccessible due to significant damage to the vehicle in the area surrounding the mercury switch.
- Recommend method for storing and shipping mercury switches.
- Recommended storage methods for mercury switches in the absence of an environmentally appropriate manner specified.

- Provisions to ensure that existing infrastructure to recycle end-of-life vehicles is used to the extent practicable. Any plan that does not use existing infrastructure must provide reasons for establishing a separate infrastructure.
- Recommended method for implementing the plan.
- Recommended method for financing the plan to ensure efficient payments to vehicle recyclers, scrap recycling facilities, and DEP for such mercury switch removal and disposal.

DEP may conduct hearings to evaluate the steps manufacturers are taking to design vehicles and their components for recycling and to recommend legislative action to promote vehicle recycling for purposes of preserving scarce resources and ensuring the safe and efficient reduction of solid waste.

DEP Review of Mercury Minimization Plan

The bill provides that DEP, in consultation with representatives of vehicle recyclers, scrap recycling facilities or other stakeholders, if needed, approve or disapprove the mercury minimization plan no later than 120 days after receipt. DEP's approval or partial approval of the mercury minimization plan is conditioned upon DEP's reasonable assurance that implementation of the plan will, in a manner that is environmentally safe, result in removal of mercury switches from end-of-life vehicles and that a program will be created to collect and recover the mercury switches.

The bill provides no later than 30 days after:

- Approval of a mercury minimization plan, each manufacturer submitting a plan shall begin, and thereafter, shall continue, implementation of the plan.
- Partial approval of a mercury minimization plan, each manufacture submitting a plan shall begin, and thereafter, shall continue, implementation of the plan.

The bill provides that if all or part of the plan is disapproved, DEP shall provide written comments stating reasons for the disapproval. Each manufacture shall resubmit within 30 days after receipt from DEP a revised plan that is consistent with DEP's comments. The bill provides that no later than 30 days after DEP approval or partial approval of the revised plan, each manufacture submitting a plan shall begin, and thereafter shall continue, implementation of such plan. DEP may request a modification of an approved plan and within 60 days after such request, the manufacture shall submit an amendment to the plan which is consistent with the request. The bill provides DEP 30 days to approve or disapprove the amendment.

Reports

The bill requires one year after a mercury minimization plan is approved by DEP, and annually thereafter, each manufacturer responsible for implementing the plan submit to DEP a written report concerning implementation of the plan. The report must include the following information:

- A statement of the number of mercury switches collected, the number of end-of-life vehicles processed for recycling, and the number of vehicles that contain mercury switches.
- A description of how many mercury switches have been managed.
- A description of the amounts paid to cover the costs of implementing the mercury minimization plan.⁶

The bill requires one year after a mercury minimization plan is approved by DEP, and annually thereafter, each manufacturer responsible for implementing the plan submit to DEP a written report concerning the steps being taken by manufacturers to design vehicles and their components for recycling. The report must include, but not be limited to the following information:

⁶ Note: DEP may discontinue the annual report requirement if it finds that mercury switches in end-of-life vehicles produced or imported no longer pose a significant threat to the environment or to public health.

- A list of each component that contains mercury which is included in each vehicle produced or imported by each manufacturer for the current model year, the next model year, and each of the prior three model years.
- Design changes that each manufacturer has implemented or is implementing to ensure that each vehicle the manufacturer produces or imports is designed to be recycled in a safe, cost-effective, and environmentally sound manner using existing technology and infrastructure to include:
 - Each complaint or report that the manufacturer has received within the last 12 months from a vehicle recycler, scrap recycling facility, or a governmental entity.
 - Any fact or circumstance that is known to the manufacturer about the design or component feature that poses risk to the environment or public health or that makes a vehicle produced or imported by the manufacturer of such vehicle uneconomical to recycle.
 - Each design change the manufacturer has implemented or is implementing to reduce such environmental or public health risk and the year any such change will eliminate the risk.

Mercury Switch Removal

The bill provides that beginning 30 days after approval of each mercury minimization plan, a vehicle recycler that conveys ownership of an end-of-life vehicle to a scrap recycling facility remove each mercury switch before delivery to the facility. A mercury switch that is inaccessible due to significant damage to the area surrounding the switch, does not need to be removed prior to delivery, if the damage is noted on the business records of the vehicle recycler. A person may not represent that a mercury switch has been removed unless that person has actually removed or arranged for another person to remove the switch. The bill provides that a scrap recycling facility may accept delivery of an end-of-life vehicle when a mercury switch has not been removed if the vehicle has not been flattened, crushed, or baled and is not in violation. A person who receives a vehicle that has been flattened, crushed, or baled is not in violation if the switch is found in the vehicle after such receipt. The bill requires a vehicle recycler or scrap recycling facility that removes a mercury switch maintain a written record of the make and model of each vehicle from which a mercury switch has been removed and the number of mercury switches collected.

The bill requires the vehicle recycler or scrap recycling facility that removes a mercury switch ensure that the switch is collected, stored, transported, and handled in accordance with the following:

- Approved mercury minimization plan
- DEP rules concerning universal waste⁷

Mercury Switch Compensation

The bill requires each vehicle manufacturer for each vehicle that is produced or imported by a manufacturer and after production of vehicle recycling records provide:

- As partial compensation for the labor or other costs to remove the mercury switches, pay \$5 to the recycler or facility for each switch the recycler has removed.
- As partial compensation for the costs to administer the program, pay \$1 to the DEP for each mercury switch removed by the recycler or facility.
- A reimbursement to such recycler or facility 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 switches to such facilities, or to prepare or distribute educational materials to recyclers and scrap recycling facilities.

⁷ rule 62-730.185, F.A.C.

Note: Such compensation or reimbursement must be made without regard to when the switch was removed or when an expense is incurred.

The bill requires by August 1, 2006, individually or as a group of manufacturers, provide to each vehicle recycler and scrap recycling facility, containers in which the mercury switches can be safely stored until such time as vehicle recyclers and scrap recycling facilities are reimbursed. The bill requires each manufacturer to indemnify, defend, and hold harmless each vehicle recycler and scrap recycling facility for any liability arising from the release of mercury from mercury switches.

The DEP is authorized to adopt rules to implement the provisions of this bill that confer duties upon DEP.

C. SECTION DIRECTORY:

Section 1. Creates section 403.7187, F.S., relating to mercury switch removal, collection, and recovery.

Section 2. Provides the act shall take effect July 1, 2006.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

Revenue of \$1 per switch for program administration costs would be paid to DEP by the vehicle manufacturers. The target capture rate in the legislation is 90 percent of mercury switches. If 90 percent of the mercury switches estimated to be in vehicles are scrapped annually, an estimated 260,000 to 370,000 switches could be removed and collected. This would yield annual revenues to the state of between \$260,000 and \$370,000.

DEP program administration would be managed by existing staff. Revenue could be expended to promote the program to vehicle recyclers and dismantlers.⁸

2. Expenditures: None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues: None.

2. Expenditures: None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Vehicle Manufacturers: Manufacturers would pay \$6 for each switch that is removed (\$5 to vehicle recyclers + \$1 fee to DEP) which is estimated to cost between \$1,560,000 and \$2,220,000 depending on quantity of switches removed. Cost Detail: At the 90 percent collection target in the proposed legislation, this would yield an annual cost to manufacturers of between \$1,560,000 (260,000 switches x \$6) and \$2,220,000 (370,000 switches x \$6).⁹

⁸ 2006 DEP HB 1307 Bill Analysis

⁹ Id.

Manufacturers would pay for the transportation and recycling of the collected switches which is estimated to cost between \$720 and \$22,200 annually depending on recycling costs and quantity of switches removed. Manufacturers would provide collection containers to the vehicle dismantlers and recyclers. Based on costs of \$4.56 - \$8.61 per collection container (including shipping to the vehicle recyclers), this is estimated to cost manufacturers between \$3,600 and \$7,800 to provide containers to Florida's estimated 800-900 vehicle recyclers.¹⁰

Vehicle Recyclers: A New Jersey study estimated it would cost \$2-\$3 to locate, remove and document a switch, assuming labor and overhead rates of \$25-\$40/hour. Under the proposed legislation, the vehicle recyclers would receive \$5/switch, resulting in a zero cost or possibly \$1-\$2/switch revenue.¹¹

The private sector would benefit from reduced mercury emissions from the electric arc (scrap recycling facilities) resulting in improved public health and protection of the environment.¹²

D. FISCAL COMMENTS: None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable because this bill does not appear to require cities or counties to spend funds or take actions requiring the expenditure of funds; reduce the authority that cities or counties have to raise revenues in the aggregate; or reduce the percentage of a state tax shared with cities or counties.

2. Other: None.

B. RULE-MAKING AUTHORITY:

The DEP is authorized to adopt rules to implement the provisions of this bill that confer duties upon DEP.

C. DRAFTING ISSUES OR OTHER COMMENTS:

DEP Comments:

The bill in effect establishes a new regulatory program within DEP.

The removal of mercury from scrap vehicles that are smelted in electric arc furnaces (scrap recycling facilities) to produce recycled steel would reduce mercury air emissions from the furnaces. The reduction of mercury in the environment would improve public health and protect the environment.

While automobile manufacturers have provided a list of which models and model years utilized a mercury switch, it is difficult to determine how many of these automobiles are actually scrapped in a particular year.

The "mercury switch" definition in the bill includes mercury switches used in convenience light switches in vehicles but does not include mercury switches used in anti-lock braking system (ABS) control modules. Fewer mercury switches are used in anti-lock braking system applications than in

¹⁰ Id.

¹¹ Id.

¹² Id.

convenience lighting applications. The locating and removal of switches from anti-lock braking system modules is more difficult and time consuming than for convenience lighting applications.

Some vehicles now contain a mercury-containing lamp as a headlight. This bill does not address that. Maine's legislation requires the removal of mercury headlamps as well as lighting and ABS mercury switches.

The "mercury switch" definition requires that the vehicle recycler must remove the pellet from the switch assembly. Due to concerns for potential breakage, consideration should be given to not requiring the vehicle recyclers to remove the pellet but to be able to simply remove the switch assembly and still receive the \$5 fee for removing the assembly. This may result in an increase in transportation and recycling costs.

The mercury minimization plan requirement for vehicle marking may be unnecessary. Since both foreign and domestic vehicle manufacturers no longer use mercury switches, it seems unnecessary to require them to mark new vehicles. It would be impractical to require manufacturers to identify, find and mark vehicles that are now on the road and that contain a mercury switch. Marking existing vehicles would likely entail a fairly extensive and expensive recall.

A manufacturer must submit its mercury minimization plan by October 1, 2006. The department has another 120 days after receipt to approve or disapprove all or part of that plan. It is likely that a manufacturer's mercury minimization plan would not be approved until January 1, 2007, or later since disapproved plans have 30 or 60 day response clocks for both the manufacturer's modifications and the department's review. The manufacturer must implement its plan not later than 30 days after approval. However, the manufacturers must provide collection containers to each vehicle recycler and scrap recycling facility by August 1, 2006. This August 1, 2006, date for delivery of collection containers should be reconsidered as it is too close to the July 1, 2006, effective date of the act, and it occurs before the mercury minimization plans are submitted and approved.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE & COMBINED BILL CHANGES

N/A