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March 7, 2016

Arkansas Department of Environmental Quality  
Attention: Ms. Teresa Marks, Director  
Mercury Switch Removal Program  
5301 Northshore Drive  
North Little Rock, AR 72118-5315

Subject: End of Life Vehicle Solutions Corporation Annual Manufacturers' Implementation Report

Dear Ms. Marks,

Arkansas's Code Title 8, Chapter 9, Subchapter 8-9-607 (Mercury Switch Removal Act of 2005) requires vehicle manufacturers to annually report on the implementation of a mercury minimization plan including:

- the number of mercury-added switches collected
- a description of the mercury switch capture rate achieved
- the number of end-of-life vehicles containing mercury switches
- the number of end-of-life vehicles processed for recycling
- a description of how mercury switches were managed
- a description of additional actions that may be implemented to improve the mercury minimization plans in the event that the required capture rate is not achieved
- a description of the amounts paid to cover the costs of implementing the mercury minimization plan
- steps being taken by manufacturers to design vehicles and components for recycling

This report is provided by End of Life Vehicle Solutions Corporation on behalf of its member automotive companies. The participating members of ELVS are: FCA US LLC (formerly Chrysler Group LLC); Ford Motor Company; Mack Trucks Inc; Mercedes-Benz USA, LLC; Mitsubishi Motors North America, Inc; Navistar, Inc.; Nissan North America, Inc; PACCAR, Inc; Porsche Cars North America Inc.; Subaru of America, Inc; Toyota Motor Sales USA, Inc.; Volkswagen Group of America, Inc; Volvo Car USA, LLC; and Volvo Trucks North America. This report also includes switches from the former MLC (old GM).

### **Mercury Switches Collected**

For the reporting period of March 1, 2015 through February 29, 2016, a total of 5,471 mercury switches were delivered to the ELVS recycling contractor from Arkansas dismantlers, yielding 12.0 pounds of recovered mercury. Switches were submitted by 40 dismantlers during the period.

Overall, a total of 51,416 mercury switches have been submitted by Arkansas dismantlers, yielding 113.1 pounds of recovered mercury. There are 260 registered dismantlers in Arkansas, 100 of which have submitted switches since the program began.

### **Mercury Switch Capture Rate**

A total of 5,644 switches were recovered in calendar year 2015. The estimated number of switches available for recovery in Arkansas during 2015 was 24,000, resulting in a 2015 capture rate of 23.5%.

### **Vehicle / Switch Estimates**

ELVS uses the National Vehicle Mercury Switch Recovery Program (NVMSRP) Switch Retirement Model ([www.elvsolutions.org/model.html](http://www.elvsolutions.org/model.html)) approved by the U.S. EPA and program partners to estimate mercury switch populations. The model was developed to identify switch populations and estimate mercury switch retirement rates through 2017. Therefore, the model focuses on mercury switch counts rather than vehicle counts.

The model estimates that the national total number of mercury switches historically manufactured in vehicles to be 169,185,000. Most of the vehicles containing these switches have already been scrapped, with an estimated 3,957,000 switches remaining in today's national fleet for collection through 2017. Arkansas's portion of these switches remaining for collection through 2017 is estimated to be 41,000.

For reference, the number of mercury switches that were available nationally for recovery in 2015 was estimated to be 2,356,000 units. In Arkansas 24,000 switches were available for recovery in 2015.

For your convenience, regularly updated collection information is available through our contractor's (US Ecology) website, <http://www.usecology.com/services/ELVS-Mercury-Switch-Recovery-Program/annual-report.asp?year=all>, portions of which are downloadable into Excel. This web-based data tracking system is part of ELVS' commitment to data accessibility, and will be available at least until 2017.

### **Mercury Switch Management**

Mercury switches received by ELVS are generally managed as follows:

- Dismantlers remove the switches, extract and place the mercury pellets in the collection buckets that are provided. ABS assemblies with multiple mercury pellets are returned as units.
- Once the buckets are full, the dismantler contacts US Ecology which pays for the shipping of the buckets to their facility in Michigan.
- US Ecology records the number of mercury pellets and enters them into its database. The pellets are then sent to a retorting facility where the mercury is recycled.

### **Additional Actions**

The goal of ELVS and NVMSRP is to maximize the participation rate, monitor results, and make program improvements as needed to increase the number of switches returned to ELVS.

In 2015 ELVS participated in a number of regional and national automotive recycling events, some of which were attended by Arkansas recyclers. In 2016, ELVS will continue to attend these kinds of events to encourage recycler participation and mercury switch collection.

As noted in our previous Implementation Report, NVMSRP member organizations completed a comprehensive review of the overall progress of automotive mercury switch collection programs in the U.S., including which collection program features have proven to be most effective. In late 2015, NVMSRP and USEPA reengaged in the effort and are continuing to examine the findings in order to identify possible additional steps to enhance switch collections. It should be noted that the availability of mercury switches in the recyclable vehicle pool has been greatly reduced over time and will continue to decline.

**Program Costs**

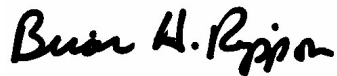
- Bucket Shipment \$ 1,659
- Recycling Fees \$ 2,280
- Bounty \$25,240
- State Fees \$ 5,048
- Website/Educational Material \$ 1,200
- Travel/Personnel/Overhead \$ 5,598

**Design for Recyclability**

The policies regarding design for recyclability being implemented by automotive manufacturers are described in the attachment, "Automotive Recycling Industry: Environmentally Friendly, Market Driven, and Sustainable" (still current). Additionally, the participating members of ELVS manage restricted substances through the International Material Database System (IMDS). Information concerning this system can be viewed at: <http://www.mdsystem.com>.

If you have any questions or comments regarding this report, please contact me at [brelvs@yahoo.com](mailto:brelvs@yahoo.com) or 248-477-7357.

Sincerely,



Brian Rippon  
End of Life Vehicle Solutions  
Project Manager

Attachment:  
"Automotive Recycling Industry: Environmentally Friendly, Market Driven, and Sustainable."