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STATES OFFER MODEL APPROACHES FOR PHASING OUT LEAD WHEEL WEIGHTS IN THE ENVIRONMENT

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INTRODUCTION

The Problem

While lead is an element that occurs naturally in U.S. soils, human activities – including the use of lead in wheel balancing weights – have caused our exposure to lead to dramatically increase. Levels in our environment are about a thousand times greater than they were a few hundred years ago.

Wheel weights are used on about 80 percent of U.S. cars and trucks to keep wheels balanced. A wheel that is out of balance vibrates, causing the tire to wear out quickly and make the vehicle difficult to handle. Wheel weights have been made out of lead since the 1930s. According to the U.S. Geological Survey and U.S. Federal Highway Administration, about 65,000 tons of lead wheel weights were in use on the more than 200 million cars and trucks driven in the United States in 2003. Approximately 2,000 tons of these weights fall from vehicles every year. Most weights are lost on city streets when vehicles hit curbs, bounce over potholes, stop or accelerate suddenly, or turn sharply. Once lost from vehicles, they are worn down by traffic, and the lead is spread by wind or water.

The accumulation of lead wheel weights on urban roads likely contributes to the lead found in urban runoff. Storm water can sweep this lead into nearby creeks and sewers, ultimately washing it into nearby waterways where it can adversely affect water quality, especially groundwater and aquatic ecosystems. In addition, small lead particles can be tracked into homes where they add to

the lead exposure of individuals who live near busy streets, potentially impacting low-income communities more than others.

A long list of problems has been linked to lead exposure by the U.S. Public Health Service: lowered intelligence, behavior problems, cancer, strokes, high blood pressure, kidney problems, anemia, cavities, and delayed puberty. Children are particularly susceptible to lead's toxic effects.

The Emerging Response

In response to environmental and human health concerns, the European Union banned lead wheel weights on new vehicles and on after-market wheels beginning in 2005. Japan and Korea are in the process of phasing out lead wheel weights, and European and Asian manufactured vehicles are using steel, zinc, and other metals as a substitute for lead in wheel weights. Some U.S. manufacturers also are producing zinc and steel weights as a replacement for lead.

Federal action to address this growing environmental and human health concern has manifested in the U.S. Environmental Protection Agency's (U.S. EPA's) voluntary National Lead-Free Wheel Weight Initiative. This effort gives wheel weight manufacturers and users the opportunity to publicly commit to ending the use of lead wheel weights by the end of 2011 "to the greatest extent feasible."

On April 15, 2008, ECOS passed a resolution (see appendix) urging that U.S. EPA use its legal and regulatory authorities to permanently halt the sale, installation, and use of lead wheel weights in the United States. ECOS recommended that the sale and installation of lead wheel weights be prohibited in the United States by 2011.

SUMMARY

While ECOS supports U.S. EPA's voluntary stakeholder effort, states including California, Maine, Maryland, Minnesota, Oregon, Vermont, and Washington have moved a step further on the issue. Some states have committed to phasing out lead-based wheel weights, and others have begun replacing weights in their vehicle fleets.

Maine was the first state in the country to transition its state fleet away from lead wheel weights on both light-duty and heavy-duty vehicles, and it has invested in research into environmentally friendly alternatives. In May, the state enacted a law to prohibit the public and private sector sale and use of wheel weights and other wheel balancing products containing intentionally added lead or mercury. The States of Vermont and Washington have enacted phase-outs, and the California Legislature currently is weighing a bill to prohibit the manufacture, sale, or installation of lead-containing wheel weights.

REPORT

The following case studies provide a snapshot of state actions addressing the problem of lead wheel weights in the environment.

MAINE

Description of Initiative

The State of Maine maintains a fleet of approximately 3,500 vehicles, of which the majority is light-duty vehicles (passenger vehicles and light duty trucks). The fleet has approximately 550 heavy-duty transportation vehicles (snow plows, dump trucks, tractor trailers) and approximately 30 school buses that serve children attending state-run schools in Maine's sparsely populated unorganized territories. Vehicles are serviced by 59 state-owned garages and maintenance facilities as well as approximately 350 independent private auto facilities.

In July 2006, the state began transitioning its light-duty fleet away from lead to the safer covered steel wheel weight during routine tire maintenance at state-owned garages and maintenance facilities. Specifications for new light-duty vehicles in the state fleet have been updated to prohibit the delivery of vehicles with lead wheel weights and require the installation of safer steel wheel weights.

Research on alternatives to lead wheel weights for the heavy-duty sector of Maine's transportation fleet had been underway for some time due to dissatisfaction with the performance of lead wheel weights and was expanded to include environmentally safer alternatives. The lower density of alternative wheel weight metals is compensated for with a physically larger wheel weight. On heavy-duty vehicles, the larger wheel weight could pose a physical hazard when it flies off a moving tire. These considerations led to the 2007 transition to an internal liquid tire balancing media. Internal balancing is permanent balancing, and eliminating the time and cost of rebalancing results in significant cost savings. The internal media being used in Maine is comprised primarily of propylene glycol (the environmentally safer antifreeze). The manufacturer of the product used by the Maine heavy-duty fleet recently applied for and received the U.S. EPA Design for the Environment label

(<http://www.epa.gov/dfepubs/projects/formulat/formparte.htm#tireadditives>).

Results to Date

Maine was the first state fleet in the country to transition away from lead wheel weights on both its light-duty and heavy-duty fleet. To date, the combined state fleets have avoided the purchase of more than 1,100 pounds of lead annually as a result of this transition.

Heavy-duty fleet staff is reporting an improvement in tire performance. The selected internal liquid balancing product has yielded an environmentally preferred balancing media, as well as cost savings. Specifications for new heavy-duty vehicles in the state fleet have been updated to require delivery of new vehicles with the internal liquid tire balance installed. In the summer of 2008, these bid specifications were extended to school bus purchases impacting both state and municipal school buses.

Leading by example in Maine state government was a significant factor contributing to the May 2009 submission and passage of a bill to prohibit the public and private sector sale and use of wheel weights and other wheel balancing products containing intentionally added lead or mercury (<http://janus.state.me.us/legis/LawMakerWeb/summary.asp?ID=280031792>).

There was no opposition at the bill's public hearing. The bill was sponsored by legislative leadership and supported by both environmental public health advocates and the Maine Auto Dealers Association and Alliance of Automobile Manufacturers.

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CALIFORNIA

Description of Initiative

In May 2009, the California Senate passed Senate Bill 757 banning the use of wheel weights in the state of California. The bill, if approved by the Assembly Appropriations Committee, will prohibit the manufacture, sale, or installation in California of wheel weights that contain more than 0.1% lead. While steel or zinc alloy wheel weight replacements are the most likely, the bill

does not specify or provide any guidelines beyond the lead ban. The burden of responsibility lies with manufacturers, distributors, and mechanics, which would face a fine of up to \$2,500 per instance of noncompliance. These fines would be deposited in the Hazardous Waste Control Account in order to implement and enforce the legislation.

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MARYLAND

The Maryland Legislature proposed and voted down legislation to eliminate lead wheel weights in March 2009. The Maryland Department of Environment (MDE) opposed the bill, but not the idea of eliminating lead wheel weights. The legislative report estimated the bill's cost at more than \$250,000, with much of the money coming from MDE's budget to inform the public of the ban as well as enforce implementation. The MDE publicly announce its disapproval of the bill due to the cost placed upon the MDE budget. However, the department stands behind U.S. EPA's National Lead-Free Wheel Weight Initiative, and is considering the elimination of lead wheel weights within its own fleet as a pilot program for the rest of the state.

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MINNESOTA

Description of Initiative

In the State of Minnesota, the Department of Administration has adopted new wheel weight and balancing requirements in the state contract taking effect October 1, 2009. Beginning at that time, the state contract will require tire dealers to use wheel weights or other wheel balancing products that do not contain lead or mercury when servicing vehicles under the state contract. The contract language is based on Maine's new law prohibiting the sale and use of wheel balancing products containing lead or mercury. Minnesota is now part of the Western States Contracting Alliance (WSCA), and is adding this requirement to the standard WSCA contract.

Minnesota Contact

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OREGON

Description of Initiative

The Oregon Department of Transportation (ODOT) has undertaken a transition of its vehicles from lead wheel weights to steel weights. With the help of Les Schwab, ODOT's primary tire provider, steps began several years ago to completely switch over to steel weights. As vehicle tires are replaced, the old lead weights will be removed from the wheel and replaced with the new steel weights.

ODOT Fleet Services is responsible for the acquisition, maintenance, repair, and disposal of more than 5,500 vehicles and equipment with an estimated replacement value of more than \$300 million; building signs for Oregon's highways; disposing of ODOT's surplus goods and equipment; transporting goods and equipment statewide; and warehousing and distributing supplies for the Oregon Department of Motor Vehicles.

The transition timeline is as follows:

- 50% of the lead weights will be replaced by steel weights by 2012; and
- 90% will be replaced by 2017.

Oregon Contact

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VERMONT

Description of Initiative

On June 7, 2007, the Vermont Legislature passed Act 193, the *Lead in Consumer Products Law*. The Act is intended to phase out most lead from children's products and from some non-children's items as well as to provide warnings to consumers about lead. It recognizes that lead is highly toxic to humans, particularly young children; can cause neurological damage such as decreases in I.Q.; and has no safe level in the human body.

Act 193 sets a limit of 600 parts per million (ppm) of lead in certain products sold in or into the State of Vermont as of October 1, 2008. This limit will drop to 300 ppm on July 1, 2009, and to 100 ppm on January 1, 2010.

Wheel weights on new motor vehicles are included in the non-children's items covered by the Act. Wheel weights sold on or after September 1, 2011, or on vehicles in the Vermont state fleet on or after January 1, 2010, will be subject to the limits set forth in the Act.

Under Act 193, manufacturers, importers, wholesalers, and retailers are all liable for their sales of products in or into Vermont that violate applicable lead standards, whether those standards are state or federal. Specifically:

- Manufacturers, importers, and wholesalers are liable for any sales to Vermont retailers, and are responsible for providing those retailers with the required disclosures and/or handouts.
- Vermont retailers are liable for any sales to consumers, and are responsible for providing those consumers with the required disclosures and/or handouts.

Vermont Contact

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WASHINGTON

Description of Initiative

In April 2009, the Washington Legislature passed House Bill 1033, which requires the use of environmentally preferred wheel weights by January 1, 2011, at the time of tire repair or replacement. “Environmentally preferred wheel weights” are defined in the act as being less than 0.5% of any substance on Ecology’s PBT list (WAC 173-333), which includes lead and mercury.

This law applies to vehicles registered in Washington with a wheel diameter of less than 19.5 inches or a gross vehicle weight of 14,000 lbs or less. Lead wheel weights removed and collected by tire retailers and distributors would be required to be recycled, which is consistent with current law and practice. Compliance will be enforced first with a letter, and then with penalties of up to \$1000.

Washington estimates the legislation will eliminate 40 tons of lead annually from wheel weights that fall off vehicles.

The State of Washington also indicates that steel wheel weights are preferred. See: <http://www.ecy.wa.gov/beyondwaste/pdf/wheelweights.pdf> .

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APPENDIX: ECOS LEAD WHEEL WEIGHT RESOLUTION



Resolution Number 08-9
Approved April 15, 2008
New Orleans, Louisiana

As certified by
R. Steven Brown
Executive Director

PHASING OUT THE SALE AND INSTALLATION OF LEAD WHEEL WEIGHTS

WHEREAS, lead is a persistent, bioaccumulative, and toxic substance; and

WHEREAS, the U.S. Environmental Protection Agency (USEPA) National Waste Minimization Program and National Partnership for Environmental Priorities Program have identified lead as one of 31 priority chemicals that are the focus of efforts to eliminate or substantially reduce use and release; and

WHEREAS, there are federal and state goals to eliminate childhood lead poisoning by 2010, and although the primary cause of childhood lead poisoning is lead from degraded pre-1978 paint, there are ongoing concerns with product and occupational sources of lead exposure; and

WHEREAS, the economic value of preventing lead exposure in the U.S. per each year's cohort of children is estimated at \$213 billion, based on conservative assumptions about both the effect of IQ on earnings and the effect of lead on IQ (“Economic Gains Resulting from the Reduction in Children’s Exposure to Lead in the United States,” Grosse et al., EHP 110:563-569 (2002)); and

WHEREAS, lead wheel weights have been used in the U.S. for 70 years and the U.S. Geological Survey (USGS) estimates that approximately 2,000 metric tons of lead from lead wheel weights fall off onto U.S. roads annually (USGS Open-File Report 2006-1111, “Stocks and Flows of

Lead-Based Wheel Weights in the United States,” Donald I. Bleiwas, 2006.
<http://pubs.usgs.gov/of/2006/1111/>); and

WHEREAS, lead wheel weights degrading on the side of the road are suspected to contribute to levels of lead in runoff that are toxic to aquatic organisms and may contribute to lead levels in roadside dust (Loading of Urban Streets by Motor Vehicle Wheel Weights,” Root, EHP 108:937-940 (2000)); and

WHEREAS, lead has been successfully phased out of other consumer products such as can solder (1978-1992), paint (1976), gasoline (1979-1996), plumbing fixtures and drinking water systems (1991), and duck shot (1991 on federal lands), with corresponding decreases in blood lead levels (R.J. Jackson, CDC Healthy Places Presentation. Maine, Oct. 2003); and

WHEREAS, lead-free wheel weights are readily available in the U.S. and world markets; and

WHEREAS, lead wheel weights have been banned on new vehicles and after-market tire balancing in Europe since July 2005; and

WHEREAS, several federal agencies, state governments, vehicle manufacturers, tire retailers, and private fleets have evaluated lead-free weights and have made public commitments to procure and install lead-free wheel weights; and

WHEREAS, USEPA has convened a stakeholder group with U.S. manufacturers of lead wheel weights and others with a stated goal to “remove lead tire weights from commerce as soon as possible.”

NOW THEREFORE BE IT RESOLVED THAT:

ECOS supports USEPA’s stakeholder dialogue to voluntarily “remove lead tire weights from commerce as soon as possible” and incorporate measures to ensure that lead wheel weights removed from use are managed properly to protect the environment and public health.

ECOS recommends that USEPA publicly recognize governmental entities, vehicle manufacturers, fleet owners, tire retailers, and others who are phasing out the use of lead wheel weights and supporting procurement and installation of lead-free wheel weights.

ECOS recommends that USEPA use its legal and regulatory authorities to permanently stop the sale, installation, and use of lead wheel weights in the U.S.

ECOS recommends that the sale and installation of lead wheel weights be prohibited in the U.S. by 2011.

Copies of this resolution be transmitted to USEPA, the Department of Commerce, the Department of Defense, and the General Services Administration.