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Manufacturer Take-Back of Lamps

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Increased emphasis on the need for energy-efficient lighting has generated increased concern over its disposal. Fluorescent and HID (high intensity discharge) lamps contain small amounts of mercury that can pose health risks under certain conditions. Lamp manufacturers support efforts to recycle lamps as a way to keep mercury vapor out of the environment. In the past 20 years, manufacturers have also reduced the amount of mercury in their fluorescent lamps by over 90 percent. Furthermore, the robust lamp recycling industry has grown significantly in that time and has the capacity to recycle all the mercury-containing lamps in the U.S. With the existing recycling infrastructure in place, policies that require manufacturers to take back lamps are not necessary and would be counterproductive. Both the manufacturing industry and the lamp recycling industry oppose these policies.

LAMP RECYCLING WORKS

The current lamp recycling system in the U.S. involves customers (mostly businesses that generate large numbers of end-of-life lamps) contracting directly with independent, third-party recycling companies. These third-party recyclers compete against each other to offer the best price for recycling all lamps, regardless of the manufacturer. The current system of direct contracting provides the most efficient and lowest cost approach.

Manufacturer collection intrudes on the existing efficient lamp recycling system by requiring that each manufacturer identify and directly fund a collection system for its own mercury-containing lamps. By injecting an unnecessary third party (the manufacturer) into the recycling process, manufacturer collection will dramatically increase transaction costs, which will be born directly by businesses, schools, state or local government operated facilities, and other consumers.

NEMA SUPPORTS LAMP RECYCLING

Since 2003, NEMA has maintained www.lamprecycle.org, which provides a one-stop source for lamp recycling information nationwide. The website contains a list of recyclers as well as links to all state websites with information about spent-lamp management. Lamp recyclers and others actively promote the use of this website. Manufacturers are also labeling lamp packages with information about lamp recycling and a toll-free number, along with the industry website. Finally, individual companies also have their own lamp-recycling promotion efforts.

In addition, NEMA partnered for several years with the Association of Lighting and Mercury Recyclers (ALMR) and the Solid Waste Association of North America (SWANA) to conduct lamp-recycling promotion and education activities under an \$800,000 Environmental Protection Agency

grant. Among the measures implemented through this effort were a lamp recycling training module for the U.S. Department of Energy's Rebuild America program and an educational CD (available by request from NEMA, ALMR, or SWANA) that promotes recycling and provides information on federal and state guidelines for proper disposal.

LAMP RECYCLING IS GROWING

As a result of these and other efforts, and adoption of the universal waste rule across the country, lamp recycling increased from 70 million lamps in 1997 to 156 million lamps in 2005. There is a nationwide lamp-recycling infrastructure currently in place with unused capacity. With continued focus on energy-efficient lighting, growing concern over mercury in the environment, and diligently enforced recycling laws, recycling rates are expected to increase.

MANUFACTURER COLLECTION IS UNNECESSARY BECAUSE:

- **It is not needed to ensure high rates of recycling.** The growth in recycling and the high rates of recycling in some states, such as Minnesota, demonstrates this.
- **The current recycling system is very efficient and economical.** When businesses and governments contract directly with third party recyclers for lamp recycling needs, they can get bids from more than one recycler and receive lamp-recycling services at the most competitive rate. This system also takes immediate advantage of any efficiency improvements in the recycling process because competition rewards efficiency improvements and continually lowers recycling costs.
- **Lamp manufacturer take-back systems would be inefficient and duplicative.** Manufacturer collection replaces the current system with a manufacturer-funded system, which will result in significantly higher recycling costs, as many duplicative and non-competitive systems will appear. There are currently more than 100 manufacturers or importers selling mercury-containing lamps in the U.S., each of which would be required to fund a collection program of some type under a manufacturer take back system. There are even a greater number of companies that sell products that contain lamps.

A MANUFACTURER TAKE-BACK SYSTEM WOULD BE COSTLY AND INEFFICIENT

- Under a manufacturer take-back system, the manufacturer would have to include administrative overhead to the process, adding significantly to the purchase price.
- Under a manufacturer take-back system, recycling costs would be charged at the time of lamp purchase, four or five years before the lamps were actually recycled. This would produce a very expensive recycling system to both businesses and governments because:
 - 1) Recycling costs essentially would be paid five years in advance, eliminating use of this money for other investments.
 - 2) Companies and Governments that "pre-paid" for recycling services in the cost of the lamp would not be able to take advantage of any recycling efficiency improvements or pricing reductions during those five years.
 - 3) There would be no ability to bid for recycling services between different lamp recyclers.
 - 4) Manufacturers would have to maintain a significant overhead structure to manage recycling issues and would build-in a significant additional overhead charge to the cost of recycling.
 - 5) U.S. antitrust laws would prevent manufactures from developing a common collection system, with a common disposal fee.

- **Government and private sector facilities will incur additional costs.** Over the years, businesses buy lamps from several different lamp manufacturers. Today, all of their lamps are recycled with one pick-up, regardless of the original manufacturer. Under a manufacturer take-back system, in addition to having to pay a high up-front fee at the time of lamp purchase, facilities will incur increased costs related to segregating and storing each manufacturer's lamps for each unique recycling system. Consequently, the new cost of an energy-efficient fluorescent lamp would be much higher than the combined cost of a fluorescent lamp and the cost of recycling under the current system.
- **It will increase the cost of energy-efficient lighting.** Lamps are a commodity, and as such are very price-sensitive. The cost of recycling large quantities of lamps is approximately 33% of the cost of a commodity four-foot lamp. Recycling costs for small quantities of lamps is typically much higher per lamp. Adding recycling costs to the selling price could increase the purchase price by a third. Since current building codes cannot be met without energy-efficient, fluorescent lighting, this will significantly increase costs for property owners.
- **State-specific regulations would result in market behavior quickly escalating recycling costs, leading to increased lamp prices in that particular state.** With significantly increased initial lamp cost in one state (see side bar), there will be enormous pressure for businesses to purchase lamps from out-of-state. As lamps from out-of-state are disposed in a state with a manufacturer collection system, manufacturers will have to significantly raise the price of remaining lamps sold in the state to pay for these free riders. These greatly increased costs will have an adverse impact on in-state businesses and on state and local government agencies that maintain building lighting systems and provide roadway and security lighting. Furthermore, out-of-state lamp purchasing could mean financial difficulty for in-state electrical distributors and retailers.

Proponents of manufacturer take-back sometimes advocate the European approach to lamp recycling. Lamp recycling in the E.U. (under the framework of the WEEE Directive) is expensive and imposes a substantial administrative burden on European markets. As a result, European consumers pay significantly more for energy-efficient lighting. Furthermore, the E.U. companies are not saddled with the same degree of anti-trust restrictions in effect in the U.S. regarding collaborative collection arrangements.

LAMP RECYCLERS OPPOSE A MANUFACTURER TAKE-BACK SYSTEM

“It is counterproductive to transfer responsibility for recycling to hundreds of lamp manufacturers, who are not in any way involved with collecting lamps or in the competitive market of lamp recycling” – Paul Abernathy, executive director, Association of Lighting and Mercury Recyclers; testimony before the California Senate Committee on Environment, April 28, 2003, in opposition to a proposed manufacturer take back requirement.

CONCLUSION

The current system, where the beneficial user is responsible for lamp disposal is the most cost-effective. For these users, the cost of recycling represents only one percent of the total cost of ownership of a fluorescent lamp. As the overwhelming financial beneficiary, there is a strong

case for lamp users to continue to fund their own recycling and negotiate their own contracts with the existing infrastructure of lamp recyclers.

A manufacturer take-back system would be the most costly of all alternatives and create enormous inefficiencies and unintended consequences. NEMA recommends using the existing infrastructure to recycle lamps and is undertaking a number of programs to encourage recycling. States will need to assist in educating users about disposal requirements and enforce existing laws.