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# Fluorescent Lamp Recycling In Maine

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# Why lamp manufacturers should pay for recycling

- Assigns responsibility to those who placed the Hg in commerce
- Drives innovation
- Internalizes recycling cost
- Market solution

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For full report: <http://www.maine.gov/dep/rwm/homeowner/fluorescent.htm>

# A brief history of lamp regulation in Maine

- 1940 – GE commercializes fluorescent lighting technology
- 1980 – DEP adopts hazardous waste rules that define “hazardous waste” to include wastes that contain 0.2 mg/l of mercury using TCLP
- 1990 – Regulators begin to realize that spent lamps are hazardous when analyzed for mercury using TCLP
- 1996 – DEP issues a Mercury Containing Lamp Policy to facilitate the recycling through liberalized storage and tracking requirements

# A brief history of lamp regulation in Maine (cont.)

- 2000 - Maine Legislature passes ban disposal of all mercury-added lamps, including those that are TCLP-compliant
  - Effective July 15, 2002 for businesses
  - Effective January 1, 2005 for households
- 2001 – DEP amends its hazardous waste rules to establish tailored requirements for Universal Waste including lamps
- 2005 – Maine Legislature amends the mercury product labeling law to require labeling of lamps, effective January 1, 2006
- 2007 – Brandy Bridges breaks a bulb; story garners national attention

# Maine DEP actions to promote lamp recycling

- \$750,000 in grants to municipalities for collection sheds at solid waste transfer stations
- Periodic regional training sessions and on-site, on-request training for transfer station operators and businesses
- Creation and distribution of a Universal Waste Handbook explaining how and where to recycle lamps and other universal wastes
- Distribution of educational brochures including mailings to every business on the mail list of the Maine Revenue Service
- Creation of Fluorescent Light Bulb Information page on the DEP website: <http://www.maine.gov/dep/rwm/homeowner/fluorescent.htm>
- Promotion of reverse distribution systems for large quantity users. The lamp distributor picks up waste lamps for recycling when delivering replacements.
- Regulatory approval of pre-paid containers for shipping spent lamps to a recycler by common carrier (e.g. Onyx Pak)

# How are we doing?

- Estimated lamp recycling rate in Maine rose from 19% in 2003 to 27% in 2005 but dropped back to 22% in 2006. The Association of Lighting and Mercury Lamp Recyclers says the national rate is below 24%
- This suggests 75% of the mercury in lamps is not recovered. Lamps sold in the U.S. each year, including imports, contain ~ 12 tons of mercury. **9 tons of mercury goes missing each year.**
- The U.S. Geological Survey estimates that > 3 tons of this mercury are released due to breakage of lamps that are put in the MSW stream.
- The USGS estimate assumes 30% loss of the original Hg for both lamps shipped to landfills and those incinerated. Assuming actually loss from incineration is 100%, annual mercury releases from lamp breakage top 6 tons.
- By either measure, THIS IS UNACCEPTABLE.

# What can be done to boost recycling rates?

CFLs: The jury is out on whether Maine's new retailer collection program will yield an acceptable recovery rate. It will be several years before we know given the relatively long service life of CFLs.

Other Hg lamps: The time has come for more aggressive steps. Lamp manufacturers should be required to:

1. Pick up spent lamps free of charge or provide a prepaid mailer for shipping spent lamps to a recycler; or
2. Assess a refundable deposit (50¢? \$1?) at the time of purchase.

Message in a bottle: 93% of the 1 billion beverage containers sold in Maine each year are returned for deposit.