

Retail Collection of Fluorescent Lamps: A Bright Idea?



Kristin Burford



City & County of San Francisco,
Department of the Environment

HHWIE Conference

28/April/05

Overview

- Lamps in San Francisco – 2002
- Benefits of Retail Collection – In Theory
- San Francisco's Retail Collection Program
- Challenges of Retail Collection – In Practice
- Future Steps

UW Lamps in S.F. – 2002

- Feb 2002 - Universal Waste Rule became effective
- HHWCF is not collecting all lamps sold to residents
- Disposal in the garbage soon illegal
- Retail collection?
Battery collection increased 5 fold with retail sites



Retail Collection Benefits – The Theory

Retail Collection is great because

- Residents know where to go
- Retailers share in responsibility for fate of products and inform people about proper disposal
- Universal waste regulations make it an option
- Local government resources are not as burdened

We need a retail collection program for lamps!

- Funding – HHW Discretionary Grant (HD 11)
- Collection Logistics
 - AERC Prepaid Federal Express Program
 - AERC ships sites supplies through Federal Express
 - Sites return boxes to AERC via Federal Express
 - Allows sites more flexibility

Recruiting

- Focus on hardware stores, lighting stores, & non-profits
- Solicitation Letter got 13 responses
- Decided to accept all responding sites and expand later depending on needs



Lamp Drop-off Sites

Site	Batteries	Latex Paint	UW Lamps
Brownie's Hardware	X	X	X
Charity Cultural Services Center	X		X
City Lights			X
Cliff's Variety	X	X	X
Cole Hardware (4)	X	X	X
Financial District Hardware	X		X
Lakeside Hardware		X	X
Peerless Hardware			X
Progress Hardware	X	X	X
SF Power Co-op			X

Site Preparation & Education

- Developed training information including spill procedures
- Conducted trainings at each site
 - Program Logistics
 - Spill Procedures
 - UWR Requirements

Supplies – Boxes & Spill Kit



Fluorescent Bulbs

- Are generally tube shaped.
- Can be straight, round, spiral, U-shaped, D-shaped, etc.
- May look like standard light bulbs (but fluorescent bulbs do not have a filament (wire) in them)
- Any questions about whether the bulb contains mercury – ACCEPT IT



Why Recycle?

Fluorescent bulbs contain mercury. They are safe in use, but should be recycled to prevent mercury from entering environment and to save resources. Breakage may lead to exposure if not properly cleaned up.

Cleaning up Broken Bulbs

- **DO NOT VACUUM** broken bulbs or residual powder

- Ensure children and pregnant women are away from broken bulb

- 1) Ventilate the area by opening doors and windows

- 2) Remove all jewelry & put on gloves

- 3) Pick up large pieces & put in plastic bucket (use plastic bag if pieces are too large)

- 4) Sweep up smaller pieces and dust carefully (to avoid scattering dust) and put debris in plastic bucket

- 5) Place broom & dustpan in a separate plastic bag for storage

- 6) Use moist (not wet) sponge to clean up residual powder and place dirty sponge in plastic bucket

- 7) Tightly close bucket containing broken bulbs & sponge

- 8) Call Jeff Nalle at DPH (252-3976) for pick up of broken bulb

Packaging & Shipping

- 1) Store bulbs near a door or window if possible for easier ventilation in case of breakage

- 2) Record date on FedEx label (Accumulation Date) when beginning a new box

- 3) When box is full, tape inner bag and box closed

- 4) Fill out any remaining information on red FedEx label

Who to Call

- For pick-up of full boxes: FedEx @ (888) 777-6040

- For new box: Dept. of Environment @ 355-3757

- For broken bulbs or abandoned hazardous waste: Jeff Nalle (Dept. of Public Health) @ 252-3976

- For any resident questions, site questions, concerns.: Dept. of Environment @ 355-3757

Spill Kit - Instructions

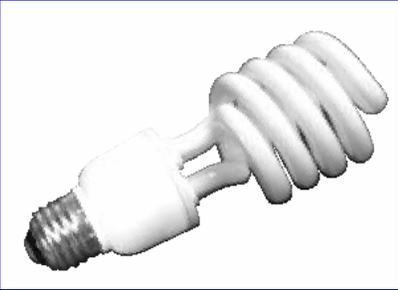
FOR BROKEN BULBS



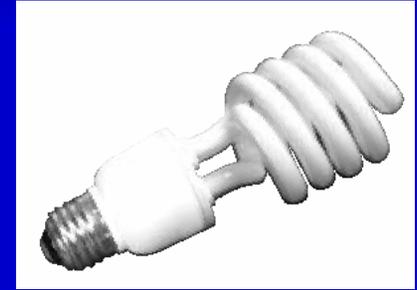
DO NOT vacuum broken bulb
DO NOT handle broken bulbs if pregnant
Ventilate area



- 1) Ventilate the area by opening doors and windows
- 2) Remove all jewelry & put on gloves
- 3) Pick up large pieces & put in plastic bucket (use plastic bag if pieces are too large)
- 5) Place broom & dustpan in a separate plastic bag for storage
- 6) Use moist (not wet) sponge to clean up residual powder and place dirty sponge in plastic bucket
- 7) Tightly close bucket containing broken bulbs & sponge
- 8) Call Jeff Nalle at DPH (252-3976) for pick up of broken bulb



Outreach



- Focus on CFLs, not tubes
- Slogan: "Too Toxic to Trash" vs. "It saved you energy, now save it from the trash"
- Need outreach in other languages – Spanish and Chinese



Tuesday 12. Apr 2005

COLE HARDWARE[®]
SAN FRANCISCO'S FAVORITE HARDWARE STORES!

eline!

News and Information
Sign up now!

[Home and Garden](#) | [Our Community](#) | [Our Company](#) | [Departments](#) | [Hardware Hotline](#) | [Shop](#) | [Contact](#) | [Search](#)

Hardware Hotline Online

Recycle your fluorescent bulbs at Cole Hardware!



fluorescent bulb

We're teaming up again with the San Francisco Department of the Environment to help keep the city of San Francisco healthy and beautiful.

Fluorescent bulbs are a great choice for energy efficiency. They can be used in most standard fixtures and will result in a 70-80% energy savings over incandescent bulbs. As an added bonus, those energy savings translate into lower-cost electric bills.

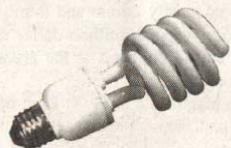
Fluorescent bulbs contain mercury, however and although safe in use they should be recycled to prevent mercury from entering the environment. Fluorescent bulbs should not be thrown into the garbage. They can break and might expose people to mercury vapors. Also, mercury can move through the environment and contaminate bodies of water. When this happens, fish living in the water can have elevated levels of mercury and be unsafe for human consumption. Mercury contamination is already a problem in San Francisco Bay.

Fluorescent bulbs are 100% recyclable. The mercury can be removed for reuse and the glass and metal from the bulbs can then be recycled. Bring your old fluorescent bulbs to any of **Cole Hardware's** [four stores](#) for recycling. We are accepting compact fluorescent bulbs, tubes up to 8 ft., U- and D- shaped tubes and other mercury-containing bulbs from San Francisco residents.

For more information on fluorescent bulbs or other hazardous waste, you can contact San Francisco Department of the Environment at 415/355-3700 or check their web site at www.sfenvironment.com.

- **Hardware Hotline** April, 2004

DURANTE AÑOS, LE AYUDO
A AHORRAR ENERGÍA.



Ahora evite tirarlo a la basura.

Las Bombillas Fluorescentes contienen mercurio
y no pueden ir en la basura.

RECICLE AQUÍ SUS BOMBILLAS:

City Lights	1585 Folsom St. at 12th St.	863-2020
Cole Hardware	3312 Mission at 29th St.	647-8700
Cole Hardware	70-4th St. at Market St.	777-4400
Financial District Hardware - Ace	140 Pine St. at Battery St.	362-7744
Peerless General Supply Co.	156 Leavenworth at Turk St.	673-2348
SF Community Power Co-op	2325 3rd St. #344 at 20th St.	626-8723

Llame y conozca los horarios y tipos de materiales que se aceptan

No deseche tóxicos, mejor llame a
SF Environment

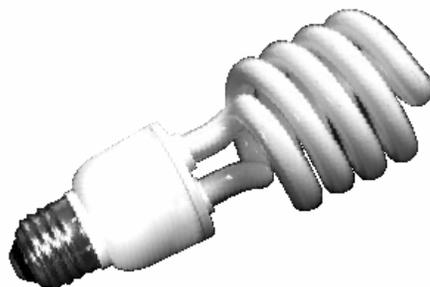


Patrocinado por fondos del California Integrated Waste Management Board.



SFEnvironment.com
(415) 355-3700

IT HELPED YOU SAVE
ENERGY FOR YEARS.



Now save it from the trash.

Fluorescent bulbs can not be put in the garbage.
They contain mercury and will contaminate the environment.

Recycle At These Sites:

Brownie's Hardware	1563 Polk St. at Sacramento St.	673-8910
Charity Cultural Services Center	827 Stockton St. at Sacramento St.	989-8224
Cole Hardware	2254 Polk St. at Green St.	674-8913

Call for hours of operation and types of materials accepted.

Don't toss toxics, call SF Environment instead.



Funded by a Grant from the California Integrated Waste Management Board.



SFEnvironment.com
(415) 355-3700

請勿將螢光燈泡丟入垃圾桶！



螢光燈泡含有水銀，隨便亂丟，會造成環境的破壞。

您可以將家中螢光燈泡帶至以下地點回收：

Brownie's Hardware	1563 Polk St at Sacramento St.	673-8910
博愛文化中心	827 Stockton St at Sacramento St.	989-8224
Cole Hardware	2254 Polk St at Green St.	674-8913

Call for hours of operation and types of materials accepted.

Don't toss toxics, call SF Environment instead.



Funded by a Grant from the California Integrated Waste Management Board.



SFEnvironment.com
(415) 355-3700



It saved you energy...now save it from the trash.
Don't Toss Toxics

Le evitó pagar más por la energía— ahora evite que termine en la basura.
它曾幫您節省能源，不要讓它成為垃圾。

DON'T TOSS TOXICS

Fluorescent lights contain mercury & don't belong in the trash - recycle them and help keep mercury out of the environment! SF residents can take their fluorescent lights to the following locations for recycling:

Las bombillas fluorescentes contienen mercurio y no se deberían tirar a la basura –¡Recíclelas y contribuye a que nuestro medio ambiente esté libre de mercurio! Los residentes de San Francisco pueden llevar sus bombillas fluorescentes a los siguientes sitios, para que sean recicladas:

螢光燈含有水銀，為防止污染環境，應該在使用後妥善回收，不應丟到垃圾桶內。以下是三藩市的回收地點：

DROP OFF LOCATIONS

Brownie's Hardware	1563 Polk St.	673-8910	Cole Hardware	956 Cole St.	753-2653
Charity Cultural Services Center	827 Stockton St.	989-8224	Financial District Hardware - Ace	140 Pine St.	362-7744
City Lights	1585 Folsom St.	863-2020	Lakeside Hardware	3401 Taraval St.	731-5252
Cliff's Variety	479 Castro St.	431-5365	Peerless General Supply Co.	156 Leavenworth St.	673-2348
Cole Hardware	2254 Polk St.	674-8913	Progress TruValue Hardware	724 Irving St.	731-2038
Cole Hardware	70 4th St.	777-4400	SF Community Power Co-op	2325 3rd St. #344	626-8723
Cole Hardware	3312 Mission St.	647-8700	SF Recycling & Disposal	501 Tunnel Ave.	330-1400



A Department of the City & County of San Francisco

sfenvironment.com
(415) 355-3700

Funded by a Grant from the California Integrated Waste Management Board.
Financiado por beca del California Integrated Waste Management Board
由加州廢物管理委員會(California Integrated Waste Management Board)資助



It saved you energy...
now you can save it
from the trash



SFEnvironment.com

Recycling fluorescent lamps as Universal Waste

All fluorescent lamps must be recycled. It is illegal to dispose of them as regular trash. Spent fluorescent lamps are usually considered hazardous waste because of mercury and lead content. However, California recently adopted the Universal Waste Law that simplified the rules for handling spent fluorescent tubes, as long as they are recycled.

Did you know?

Ballasts manufactured before 1978 likely contain PCBs that can cause cancer and reproductive/developmental problems. Therefore, PCB-containing ballasts must be disposed of as hazardous waste.

A business that generates more than 5,000 kilograms (5.5 tons) of universal waste is classified as a Large Quantity Generator and must follow more stringent standards. All other businesses must follow the Universal Waste Law requirements, some of which are summarized below.

This brochure does not include all the requirements; please refer to the Department of Toxic Substances Control for detailed information, www.dtsc.ca.gov.

- **Recycling:** Spent fluorescent lamps must be sent to an authorized recycling facility.
- **Labeling and marking:** Each container of waste lamps must be labeled clearly. "Universal Waste: Lamps," "Waste Lamps," or "Used Lamps" are acceptable. Each container must also indicate the start date of accumulation.
- **Accumulation Limit:** Waste lamps may not be accumulated for longer than one year after generating or receiving the waste. Contact the San Francisco Health Department's Hazardous Materials Unified Program Agency at 252-3900 if your business requires more time.
- **Prohibitions:** Universal Waste may not be treated in any manner by a generator. If you deliberately destroy the lamp, they must be managed as hazardous waste. If the lamps are broken accidentally, repackage the lamp and manage it as universal waste. Cleanup material must be characterized as hazardous waste and handled accordingly.
- **Training:** Employees must be trained on proper handling, packaging, storage, and labeling of universal waste as well as how to respond to releases.
- **Recordkeeping:** All shipment and disposal records of universal waste must be maintained onsite for three years.



Ballast



Neon Sign



Exit Signs

Program Results

- Goal – 25 lamps per site per month
- Lamps returned over the first year
 - 120 CFLs & odd-shaped lamps
 - 2250 4 foot tubes
 - 600 8 foot tubes
- Actual – 20 lamps per month per site



But... What really happened?



Lessons Learned - Training

- Residents bring lamps to stores to buy the proper replacement
- In the past, staff would break the lamps before throwing them into the garbage – concern for garbage worker safety
- Staff turnover can happen – A LOT (took supplies with them)
- MUST check in with sites

Lessons Learned – Tracking Boxes

- Sites call our dept. to request boxes, but we have not been notified when boxes are shipped out
- Hard to keep track of number of boxes at sites – notified quarterly of boxes received by AERC
- Place limits on number of boxes stored on site?



Lessons Learned – Federal Express Return Program

- Labels are really easy to lose
- Limited options for box size (4 foot & 8 foot)
- Sites request pick-ups by calling Fed Ex 800 #

0527048 00191113 0527048 00191113 0527048

FROM: COMPANY (SF Dept of Env)
ADDRESS
CITY STATE/PROV
ZIP/POSTAL RA#

TURN OVER FOR INSTRUCTIONS

UNIVERSAL WASTE

Check one of the following for contents:
Use a ballpoint pen.

Lamp(s)
Battery(ies)
Mercury Thermostat(s)
Other

SHIP TO:
AERC
30677 HUNTWOOD AVENUE
HAYWARD, CA 94544

Accumulation Start Date: / /

Lessons Learned - Funding

- Grant has ended, no SB 1180
- Program Costs - \$10,000/yr + staff time



Retail Collection – In Practice

Retail Collection is great because

- Residents can take products back where they buy them from – they know where to go

TRUE

- Retailers share in responsibility for the fate of products which they sell and inform people about proper disposal

TRUE

Retail Collection – In Practice 2

- Universal waste regulations make it an option

TRUE, BUT...

- Local government resources are not as burdened

?????

Future of Satellite Collection of Fluorescent Lamps

- Prepaid Fed Ex program must be changed before it is sustainable
- Transition to a pick-up program conducted by our HHW contractor
- Recruit additional sites throughout San Francisco
- Continue outreach efforts to let people know about the mercury content in fluorescent lamps

Unintended Consequences of Establishing Lamp Recycling



Thank You!

Kristin Burford

City & County of San Francisco,
Department of Environment

(415) 355-3757

Kristin.Burford@sfgov.org