



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
AIR AND RADIATION

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**Dear Green Lights Participant:**


The Green Lights program printed "EPA Answers Your Questions About Fluorescent Lamp Disposal" in the December "Green Lights Update". Attached for your information is a reprint of the article. It is important that Green Lights participants are aware of Federal requirements for the disposal of mercury-containing lamps and handle them accordingly. Remember that these requirements apply to **all** users of mercury containing lamps, not only Green Lights participants.

If you have any questions or comments, please contact the numbers listed on the attached document, or contact the Green Lights Program at:

Green Lights Program  
U.S. Environmental Protection Agency  
401 M Street, S.W.  
Mail Code 6202J  
Washington, D.C. 20460

Thank You!

Sincerely,

  
Jackie Krieger, Chief  
Implementation Section  
Green Lights Branch





# Fluorescent Lamp Disposal



## EPA Answers Your Questions About Fluorescent Lamp Disposal

*EPA has been receiving an increasing number of questions as to whether used fluorescent lamps are a hazardous or non-hazardous waste, as well as requests for guidance on the best waste-handling methods. EPA is happy to take this opportunity to answer these questions and to provide clearer guidance on the status of current federal regulations on fluorescent lamp disposal.*

### **Q** *uestion: Why is proper disposal of fluorescent lamps important?*

Fluorescent lamps contain small quantities of mercury that may be harmful to the environment and to human health. To prevent these materials from polluting the environment, used lamps must be handled in an environmentally safe manner.

### **Q** *uestion: Are fluorescent lamps considered a hazardous waste?*

According to current federal law, fluorescent lamps may be a hazardous waste. Under the

Resource Conservation and Recovery Act (RCRA), used fluorescent lamps, like most other wastes, are subject to evaluation against the RCRA hazardous waste characteristics, including the toxicity characteristic. The generator of the waste is responsible for making this determination.

Wastes found to exhibit toxicity characteristics are defined as hazardous wastes and must be managed according to hazardous waste storage, treatment, and disposal regulations, unless otherwise excluded. The mercury content of fluorescent lamps can cause them to be classified as hazardous under this regulation, requiring their management as a hazardous waste.

### **Q** *uestion: What is EPA's thinking on lamp disposal?*

EPA's Office of Solid Waste is responsible for implementing RCRA. It is currently assessing the hazards of mercury-containing wastes via land disposal. A full range of options is being considered, including changing the regulatory levels for mercury and developing specific rules for fluorescent lamps. Although the end result

of this evaluation could be deregulation, EPA encourages all Green Lights participants, as well as other fluorescent lamp users, to handle fluorescent lamps in compliance with current hazardous waste regulations.

### **Q** *uestion: Should I still join the Green Lights Program? Will lighting upgrades expose me to hazardous waste regulation?*

All lamp disposers, regardless of whether or not they participate in Green Lights, are subject to hazardous waste regulations. However, a comprehensive energy-efficient lighting program (such as Green Lights) can reduce the cost of complying with these regulations. First, a good energy-efficient lighting upgrade typically includes some type of control strategy (e.g., occupancy sensors, energy management systems), which will reduce lamp burning hours. This means that the lamps will not have to be replaced as frequently, reducing total disposal costs. Second, a good energy-efficient lighting program typically includes a lighting management plan whereby an independent contractor replaces all of the lamps on a pre-determined schedule. These service

contracts can include removal and disposal of the spent lamps (if desirable to both parties), thereby reducing the burden of complying with the regulations.

**Q** *uestion: What is the Green Lights Program doing to help participants address this issue?*

The disposal of used fluorescent lamps has been an important consideration in Green Lights since the program's inception in 1991. Green Lights has educated participants on the proper disposal of both fluorescent lamps and PCB-containing ballasts by issuing fact sheets and by devoting a chapter of the *Green Lights Lighting Upgrade Manual* to the topic.

**Q** *uestion: What are the financial implications of disposal?*

The costs of complying with these regulations are not trivial, but they are not extraordinary. In California, where earlier state regulation has led to significant experience with regulated lamp disposal, a 4-foot fluorescent lamp typically costs 50 cents to remove, transport, and dispose, in compliance with regulations.

This cost can be put into perspective in two ways. First, the cost of operating a lamp (including ballast losses) for its 20,000-hour life is \$64 at the national average electric rate of 7 cents per kilowatt-hour. The 50-

cent disposal cost of the lamp is quite modest in comparison.

Second, replacing an old fixture with a new one usually costs about \$100–\$150, including installation. Disposing of an old fixture's lamps will cost approximately \$2, depending on market conditions and disposal services purchased. If the new fixture uses half the electricity of the old fixture (as is typical with Green Lights upgrades), then the electric bill savings will pay for the cost of disposing of the old lamps after 310 hours of operation—about 1 month for most businesses. Essentially, lamp disposal will extend the payback of a project by approximately 1 month.

**Q** *uestion: What role do states play in fluorescent lamp disposal?*

States may classify mercury-containing lamps as hazardous waste and may regulate their disposal independent of EPA's regulations. Check with your Regional EPA office or the solid and hazardous waste department of your state environmental protection agency for requirements concerning disposal of mercury-containing lamps in your area.

**Q** *uestion: Will there be more mercury in the environment if I convert to energy-efficient lighting?*

No, there will be less. Power plants burning fossil fuels to

generate electricity for lighting systems also generate air pollutants such as carbon dioxide, sulfur dioxide, and nitrogen oxides, as well as toxic trace metals, including mercury. More mercury is emitted from power plants supplying electricity to lamps than is found in the lamps themselves. Upgrading to energy-efficient lighting therefore keeps more mercury out of the environment than would leaving inefficient lighting in place. Mercury emissions are reduced by 60 percent through reduced power plant emissions when inefficient lighting is replaced with efficient lighting.

**Q** *uestion: Can lamps be made with less mercury?*

Yes. American manufacturers are working to adopt new processes, which can significantly reduce the amount of mercury needed to operate a lamp.

**Q** *uestion: Who should I contact if I have further questions about the disposal of fluorescent lamps?*

If you have questions about handling fluorescent lamps as a hazardous waste, please call the RCRA Hotline at 1-800-424-9346 (703 920-9810 in the Washington, DC area). Questions about the Green Lights Program should be directed to the Green Lights Hotline at 202 775-6650.