

## **Standard Operating Procedure for Service and Maintenance Staff**

Fluorescent Lamps and Ballasts

Yale Facilities Operations and EHS

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### **Background**

Although highly energy efficient compared with traditional incandescent lighting systems, fluorescent lamps and ballasts can contain hazardous materials that require special handling and disposal. Fluorescent bulbs, even most newly manufactured ones, continue to contain small amounts of mercury inside the bulbs. In addition, older oil-filled ballasts manufactured prior to 1979 may also contain PCBs. Whether they are an older or newer style, fluorescent bulbs and ballasts cannot just be thrown into the general trash. The following procedures will help prevent exposure to these hazardous materials and ensure that they are properly managed for recycling or disposal.

### **Before Starting Work**

- Recognize that fluorescent lighting systems may contain mercury and PCBs.
- For all Work Requests involving these systems, prepare yourself by bringing along:
  - Disposal rubber or nitrile gloves,
  - Sealable plastic bags,
  - Safety glasses,
  - Lock-out / tag-out supplies,
  - Portable lighting or headlamps, as appropriate.
- Consult your supervisor or lead person on the relamping history of older buildings; those newer than 1979 should not contain any PCB ballasts.
- For large projects, contact EHS at 432-6545 for delivery of fiber drums for collection of spent lamps or steel drums for the collection of ballasts. Ensure containers are dated with accumulation start date. For single or small numbers of ballasts, seal them in a plastic bag and return to your shop for disposal. For small numbers of bulbs, use the local bulb collection box.

### **While Working on a Fluorescent Fixture**

- **Relamping:**
  1. Remove the lamp bulb and place it in a cardboard waste bulb collection box or fiber drum and return to your shop or the local accumulation area. Handle bulbs with care, and avoid breaking them. Contact Yale EHS when a collection drum is full or almost one year old.
  2. If a lamp bulb does break, leave the area for 5 minutes to let the dust settle. While wearing disposable gloves, sweep the debris into a plastic bag, seal it, and place inside a cardboard waste bulb collection drum.
  3. Wash hands with soap and water when finished, and always before eating, drinking, or smoking.

- **Reballasting:**

1. Properly depower the fixture upon arrival. If the light switch is within your sight and control, use the light switch. If there is a chance that the switch could be inadvertently turned back on by someone else, apply lock/tag out procedure. If the switch is not readily available, trace the circuit back to its panel and depower there. Notify others in the area before shutting off any circuit that might disrupt them. Then either lock out the panel and post it or lock out the individual circuit breaker. If neither practice is possible, contact your supervisor.
2. Modern electronic ballasts can be handled directly, but older oil-filled ballasts (regardless of age or oil type) should only be handled while wearing gloves.
3. Read the ballast label. Units manufactured after 1979 should state "No PCBs" on their label. Those manufactured prior to 1979 may or may not contain PCBs.
4. Collect non-PCB ballasts separately from all others, placed directly into a sealable plastic bag, and then return them to your shop to add to the non-PCB ballast waste drum.
5. Collect PCB containing and all older non-labeled ballasts into another sealable plastic bag, and then return them to your shop to add to the PCB waste drum.
6. If a leaking ballast is known or suspected to contain PCBs, safely depower the fixture as above. Wear gloves while touching any potentially contaminated components or surfaces. If any other surfaces or components have been contaminated by oil or soot, contact Yale EHS (785-3555) or your supervisor to assess any clean-up requirements prior to completing the repair or replacement.
7. Regardless of ballast type, always wash your hands with soap and water when finished, and before eating, drinking, or smoking.
8. Contact Yale EHS when container is full. Note: PCB ballasts must be shipped off-site within 30 days of out of service date.

**After Completing Work**

1. Ensure work area and hands are clean.
2. Contact Yale EHS at 432-6545 to arrange for disposal of lamps and ballasts.