

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 lamps, even most newly manufactured ones, continue to contain small amounts of mercury inside the lamps. In addition, older oil-filled ballasts manufactured prior to 1979 may also contain PCBs (Polychlorinated Biphenyls). Whether they are an older or newer style, fluorescent lamps and ballasts cannot just be thrown into the general trash. The following procedures will help prevent exposure to these hazardous materials and ensure that the lamps 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,
 - A step-stool or ladder, if needed
- 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 Yale EHS at 203-432-6545 for delivery of pre-labeled fiber drums for the collection of used lamps and/or steel/plastic drums for the collection of ballasts.

While Working on a Fluorescent Fixture

- **Relamping:**
 1. Identify the local or shop accumulation area for used lamps.
 2. If applicable, protect equipment below the light fixture by applying plastic sheeting. Never change lamps over food or food preparation equipment/areas without protection.
 3. Don safety glasses and protective gloves.
 4. Identify the light switch location. If it is a single-pole switch (labeled “on” and “off”), turn it off. Apply a lockout device to the switch if the switch is not visible from where the work will be performed. If the switch is not single-pole, consult with your supervisor to identify the isolation point and lock it out.
 5. Remove the light diffuser, if equipped.
 6. If the lamps are hot, wait for them to cool or don heat resistant gloves.
 7. Ensure a space is available to set the used lamps as they are removed.

8. Remove the lamps, one at a time, and place in a cardboard used lamp collection box or fiber drum and bring to your shop or the local accumulation area.
9. Ensure each collection box or drum is labeled with the words "Used Lamps" and with the date the first lamp was placed in the box or drum.
10. Handle lamps with care and avoid breaking them. If a lamp 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 used lamp collection box or drum.
11. Always wash your hands with soap and water when finished, and before eating, drinking, or smoking.
12. Contact Yale EHS at 203-432-6545 when a collection box or drum is full or 10 months old.

- **Reballasting:**

1. Identify the power source, isolate it, lock it out, and verify the power is isolated at the ballast before performing work. Only qualified electrical workers are permitted to replace ballasts.
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, place directly into a sealable plastic bag, and return them to your shop to add to the non-PCB ballast waste drum.
5. Collect PCB containing ballasts and all non-labeled ballasts into another sealable plastic bag and return them to your shop to add to the PCB ballast 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 (203-785-3555) 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 at 203-432-6545 when container is full. Note: PCB ballasts must be shipped off-site within 30 days of out-of-service date.