

*U.S. Army Garrison Hawaii – Environmental Compliance Guide*

# TRANSFORMERS, CAPACITORS, AND OTHER OIL FILLED ELECTRICAL EQUIPMENT

## GENERAL INFORMATION

Oil filled electrical equipment such as transformers, capacitors, and florescent light ballasts have safety, spill prevention, and disposal regulations. Dielectric fluid is used to help cool the equipment and is essential to its proper operation; mineral oil is commonly used. In the past a highly carcinogenic chemical called polychlorinated biphenyl (PCBs) was used. PCBs were banned from manufacture and use in the United States in 1979. Equipment manufactured prior to 1980 is highly suspect to contain PCB.

## POTENTIAL HAZARDS

Do not allow PCB oil to contact skin or clothing. It can cause a variety of adverse health effects and is very bio-persistent. It has been shown to cause cancer in animals and studies support evidence for potential carcinogenic and non-carcinogenic effects of PCBs in humans. Oil spills from leaking transformers (even the ones without PCB) harm the soil and water resources. The high voltage of electrical equipment presents a severe electrocution/shock hazard. Some capacitors retain deadly amounts of voltage even when disconnected.

## WASTE CHARACTERIZATION

Oil filled electric equipment manufactured prior to 1980 must be assumed to contain PCBs unless analyzed by a lab. After 1979 manufacturers began marking the equipment with the words “No PCB”. Non PCB equipment can be recycled as used oil and scrap metal.

## HANDLING AND DISPOSAL PROCEDURES

**Waste PCB containing equipment** is characterized as regulated waste by 40 CFR 761 and requires specialized disposal much like hazardous waste. If PCB waste is generated or discovered, contact USAG-HI Environmental at (808) 656-3106.

Step 1: Determine the manufacture date of the equipment. Refer to manufacturer name-plates. Visually inspect florescent light ballasts for the words “No PCB”.

Step 2: If the manufacture date is before 1980 or the equipment label does not contain the words “No PCB”, then assume it contains PCB. Contact USAG-HI Environmental for storage and disposal guidance.

**PCB-Free equipment** can be recycled as used oil and scrap metal. Non-PCB florescent light ballasts can be recycled as scrap metal. The oil from high voltage transformers of any age is required to be tested for PCB prior to recycling (the DPW High Voltage transformer recycling contract does this).

**Report any spills to (808) 656-1111.** From a safe distance, periodically check transformers for leaks. Report leaks to DPW Environmental.