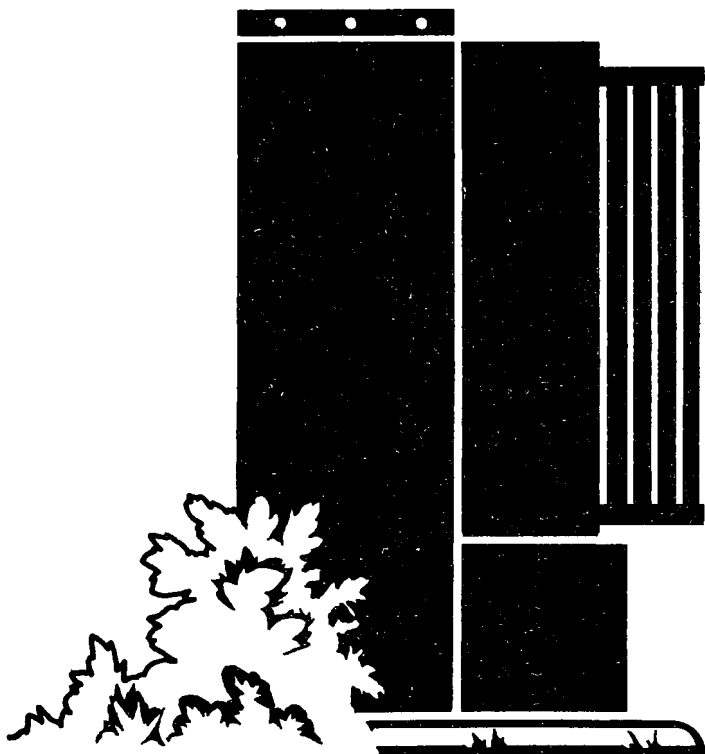




PCB Transformers and the Risk of Fire

A Guide for Building Owners



The greatest danger from a fire usually is not the flames or the heat but the smoke and gases given off from burning substances. The burning of chemicals as toxic as PCBs (polychlorinated biphenyls) produces gases which are particularly dangerous.

Individuals may be exposed to PCB gases if a fire occurs in or near an electrical transformer which uses PCBs in its insulating fluid.

If you are the owner of a commercial building, you have a special responsibility to reduce the threat to the health of your tenants and local fire fighters that could stem from a fire in or near a PCB transformer. (A commercial building is a non-industrial building—such as an apartment house, school, meeting hall, or store—which is typically accessible to the general public.)

PCB electrical transformers were manufactured between 1929 and 1977. An estimated 77,000 PCB transformers are in use in this country today. Only about 18,000 of these are owned by utility companies. The great majority of PCB transformers belong to building owners.

U.S. Environmental Protection Agency regulations now require owners of PCB transformers to take specific actions to help ensure the public safety.

Do You Own a PCB Transformer?

As a building owner, you need to know if you own the electrical transformer(s) for your building. If you are uncertain, contact your local utility company. If the utility does not own the transformer in your building, then you do.

If you own the transformer in your building, your next step is to determine if it contains PCBs.

The transformer will be in or near the building it serves. It may be on the roof, in the basement, in the parking lot, on an exterior wall, in a vault under the sidewalk, or in some other location close to where the power cables enter the building.

Generally, a transformer will have a nameplate attached to one side of the unit.

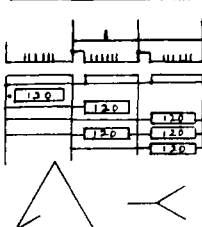
Trade Name
THREE PHASE TRANSFORMER 08692747008

500 TYPE AT CYCLES 60 6644

RISE 55 %C IMPED 5.17 % B.L.H.V. 95 KV BLLV 130 KV

H. 13200 L.V. 208Y/120

HIGH VOLT		TAP CHANGER	
VOLTS	AMPS	DIAL	CONNECTS
13860	20.6	A	1 to 2
13530	21.3	B	2 to 3
13200	22.8	C	3 to 4
12870	22.4	D	4 to 5
12540	23.0	E	5 to 6



PLAN VIEW

GALLONS OF OIL 135

APPROX. WEIGHTS IN POUNDS
WHEN UNTANKING 3000
TANK IN FITTING 1565
OIL (PYRANOL) 1685
TOTAL 6250

Since PCBs were marketed under different trade names, the nameplate on a PCB transformer may not carry the specific term "PCBs." Trade names for PCBs include:

Chlorextol	Pyranol
EEC-18	Chlophen
Kennechlor	Pyralene
Abestol	Non Flammable Liquid
No-Flamol	Fenclor
Aroclor	Solvol
Askarel	Saf-T-Kuhl
Inerteen	DK
Phenoclor	

If the nameplate says "PCBs" or any of the names on the above list, then the transformer most likely contains PCBs in concentrations of between 600,000 and 700,000 parts per million (ppm). Any transformer containing PCBs at a concentration of 500 ppm or greater is subject to the new EPA regulations listed below.

Should your transformer's nameplate not carry any of the above labels, or if the label is missing or illegible, your utility company may be able to tell you if the transformer contains PCBs. Otherwise, the only way to be certain is to have the fluid tested.

New Requirements

For some time, regulations have been in effect which govern the use, servicing, and disposal of PCB transformers. The recently issued rule described here applies to all PCB transformers in commercial buildings and establishes strict requirements for the owners of those transformers.

- Installation of PCB transformers in, or near, commercial buildings is prohibited. (Although PCBs are no longer manufactured for use in transformers, many PCB transformers are currently in storage for reuse.)
- Owners must register PCB transformers with their local fire department.
- Utility companies that own PCB transformers located in or near commercial buildings must register the transformers with building owners as well as with their fire department.
- PCB transformer areas, excluding grates and manhole covers, must be marked.
- Combustible materials cannot be stored within a PCB-transformer enclosure or within five meters (approximately 16 feet) of an unenclosed transformer.
- Owners of PCB transformers which are involved in a fire must report the incident immediately to the U.S. Coast Guard National Spill Response Center by calling 800-424-8802 toll-free. (In the Washington, DC metropolitan area, call 426-2675.)

As of October 1, 1990:

- The use of PCB units that EPA believes have a relatively high probability of electrical failure is prohibited.
- Improved electrical protection must be installed on other PCB transformers to avoid fires caused by electrical faults.

It is critically important that commercial building owners register PCB transformers with local fire departments or brigades. PCB fires pose serious risks to building occupants and fire fighters. If fire fighters and other emergency personnel know they may be dealing with PCBs, they can be prepared and equipped to deal with the fire. Both fire fighters and building owners also should be aware of the need to quickly evacuate occupants in an emergency situation, and of the need to insure that proper and adequate cleanup occurs prior to reoccupation of the building.

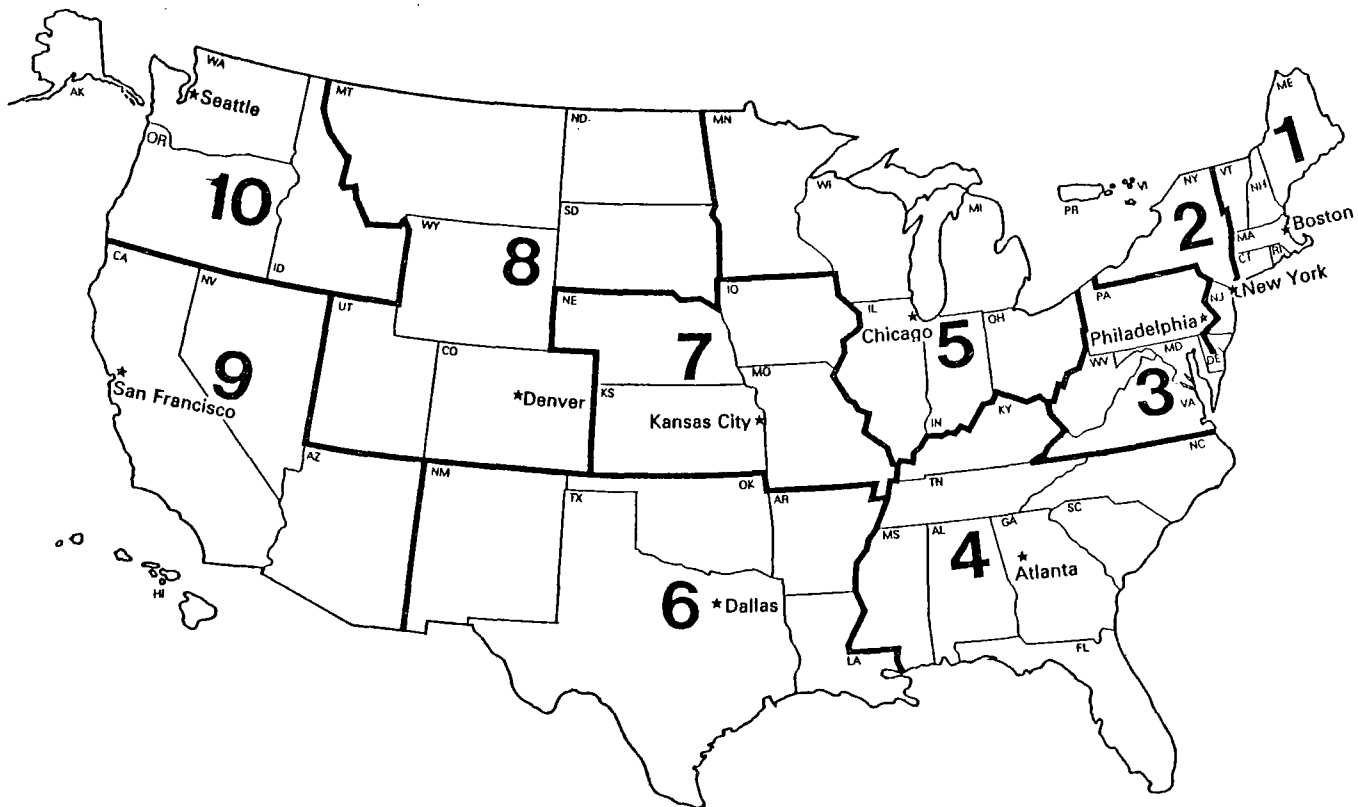
A Serious Health Concern

EPA's regulations covering transformers are part of a series of rules the Agency has issued in recent years to protect the public from PCBs. There are a number of adverse health effects associated with these chemicals. Tests on animals show that PCBs can harm reproduction and growth, and can cause skin lesions and tumors. When PCB dielectric fluid is partly burned—as it may be in a transformer fire—the PCB fluid produces by-products, which include polychlorinated dibenzodioxin and polychlorinated dibenzofurans, that are much more toxic than the PCBs themselves. Tests on rats show that furans can cause anemia and other blood problems. Dioxin is associated with a number of health risks, and has been shown to cause cancer of the liver, mouth, adrenal gland, and lungs in laboratory animals.

For More Information

If you need help in complying with the new regulation, please contact your nearest EPA Regional Office (see back cover). For more information about the transformer regulation, or other EPA rules controlling PCBs, write to the Office of Toxic Substances (TS-799), U.S. EPA, Washington, DC 20460, or call that office toll free at 800-424-9065 (in Washington, D.C., call 554-1404).

EPA's Regional PCB Contacts



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