PCB: The menace lurking everywhere

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By BOB NORBERG

Is the chemical polychlorinated biphenyle — PCB — as prevalent as the number of news accounts of spills and leaks suggest?

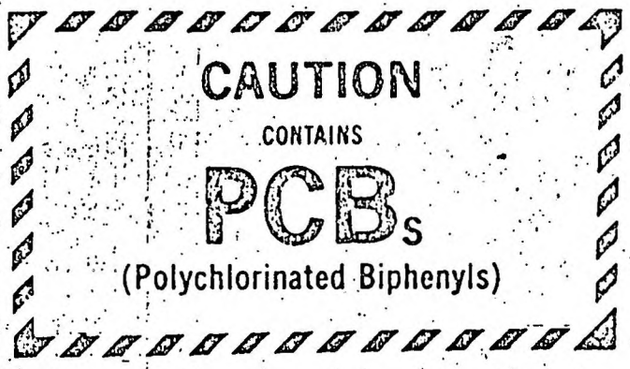
Public officials and company executives, who two years ago probably hadn't even heard of PCB, are finding the chemical is just about everywhere — in public and private hands.

Concern over the toxic chemical is growing and, although officials don't always agree with claims the chemical causes cancer, efforts are being made to remove it from the environment.

PCBs no longer are being produced or used in any new equipment, and that alone gradually will reduce its presence, according to Sonoma County officials.

But if the removal of PCBs seems agonizingly slow, that's because it is. Not only are many PCBs still undetected, but removal is being hampered by the feeling by some officials the PCB danger is blown out of proportion.

The most common use of PCB has been as an insulating fluid in transformers, of which Pacific Gas & Electric Co. is a primary user, and in ballasts for fluorescent light fixtures.



Transformers — some with as much as 80 gallons of PCB-laden insulating fluid — also can be found in use by many public agencies, in private industry and with large PG&E customers.

PCBs also have been used in paints, hydraulic fluids, carbonless copy paper, televisions, radios, air conditioners and in oil spread on roads to control dust.

Ten million pounds enters the environment annually, primarily through spills. And 750 million pounds of the chemical is still in use or in storage, according to Sunohio, which has developed a new system for cleaning PCBs from transformer oil.

Trace amounts of PCB have been found in Santa Rosa, Healdsburg and Cloverdale sewage plant effluent. Santa Rosa effluent is used as irrigation on feed crops, according to Bob Tancreto of the state Water Quality Control Board.

Those trace amounts are 7 parts per trillion, far less than the government-permitted amounts.

County Health Officer Robert Holtzer said it will be a long time before we live in a PCB-free environment, as long as federal law allows existing PCB equipment to be used.

PCBs "will be reduced. Clearly the capacitors in the county will be replaced. That'll just leave the unknown areas of contamination we don't know about," Holtzer said.

Holtzer said some of the contamination, like at MGM Brake in Cloverdale, will surface suddenly. Others will turn up later.

"But the trend will be down, simply because they're not putting PCBs in new equipment," Holtzer said.

"You have to make a risk assessment," said county Environmental Health Director Mike Vinatieri. "Is the risk we take (with PCBs) worthwhile? We can't eliminate PCBs, so how far do you go with it?"

A year ago, the Sonoma County Board of Supervisors became concerned enough to ask PG&E for a list of all telephone poles with PCB transformers, a warning marker on the pole and locations of any other transformers in the county.

The board also asked for a clean-up program for PCB spills, notification of local agencies in spill incidents and a study of the contamination from past spills.

In a report Holtzer gave supervisors two weeks ago, much of the resolution has been met.

PG&E has replaced 72 of its 228 PCB transformers in Sonoma County, and says it will complete the replacement over the next two years.

PG&E has provided a list of PCB transformers to the county Office of Emergency Services, health department and the police and fire departments.

The utility also was asked for information on the 13 PG&E-owned electrical transformers it has in private buildings, but would only give the location of 11 of them.

PG&E spokeswoman Jan Miller said the information is proprietary and those two customers don't want the information released.

The utility also has stood firm on its refusal to plainly label the poles, citing the fear of vandalism. Backing up the stance is reports two of the 11 leaks in PCB transformers since August 1980 have been caused by gunshots.

Miller said the poles will be marked designating the presence of PCB transformers, but it will be at the top of the pole, away from public view.

Holtzer's report says PG&E also provided a list of the privately owned transformers, which would be found in private industry, but a survey by Public Health turned up very few with PCBs. Only few entities refused to respond.

PG&E also has conducted a program testing natural gas mains for PCBs introduced by compressors and transformers. A small amount was found in a Petaluma catch tank.

PCB locations

According to the Holtzer report, the private and PG&E transformers which have been identified as having or suspected of having PCBs are:

Sonoma County Fairgrounds, two private and 13 PG&E; Sonoma County Water Agency, one at 9750 Wholer Road; Sonoma County Building Mantenance Division, three at Los Guilucos and Orenda Center; Sonoma County Public Works has six PG&E transformers at the corporation yards; Sonoma County Regional Parks, some PG&E transformers; Sonoma County Airport, 400 runway and taxi apron light ballasts and eight Federal Aviation Administration transformers; Petaluma, two at sewage treatment plants; Santa Rosa, three at the sewage treatment plant, Howarth Park and Doyle Park Ball Field.

Petaluma public works director Roy Kelly said the city has a transformer with PCBs at the sewage treatment plant oxyidation ponds. It's within a concrete enclosure and would present no public health problems if it leaked.

The second transformer is being tested to see if it contains PCBs, Kelly said.

One of the PCB transformers at the Sonoma County Fairgrounds leaked last spring, said fair manager Chris Borovansky. The area was roped off and proper cleanup undertaken. The rest of the transformers, all in non-public areas, were checked, Borovansky said.

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Santa Rosa Junior College maintenance chief Larry Bourdet said they're just beginning a program to find and identify all transformers at the college.

It'll take time, he said, because they'll have to go over all the construction blueprints.

"The college has gone through a lot of construction during the past few years," Bourdet said. "The college has been here since 1911. The older equipment is now gone, so hopefully the PCBs are gone with it.

"We'll look at transformers and ask the companies if they have PCB. The hardest part is finding all the transformers. They're in nooks and crannies," Bourdet said.

At least eight of Sonoma State University's 13 transformer banks contains PCBs, according to plant operations director Bill Nabry. The other five they're not sure about.

The transformers are all in underground vaults or in other areas that are fenced and locked, so they're not accessible to the public.

One transformer was noticed leaking a year ago during a PCB-search mission. It was in the basement of the library, leaked an ounce of the substance, and has been cleaned and repaired, Nabry said.

Nabry said there are two transformers that are scheduled for immediate replacement because if they did leak, it's possible the fluid could run into the storm drains, into Copeland Creek, into the Russian River, the water system and the food chain.

The state colleges and university system has a $10 million statewide program to replace the transformers.

Lights a problem

PCBs were widely used in the ballasts of fluorescent light fixtures manufactured before 1979, and these present problems when they leak or explode, even though they contain small amounts of PCB.

According to county and city officials, the PCB ballasts are replaced as they fail, since the cost of replacing all in a single program would be prohibitive.

"I think the danger in fluorescent fixtures is greatly overrated," Holtzer said. "They should be replaced when they leak. The stuff that comes out of the ballast is black and gooey and it's easy to avoid. No one I know of is recommending wholesale replacement."

Santa Rosa City Manager Ken Blackman said they took advantage of a state-funded energy program two years ago to replace all fluorescent lights in the city with newer, more efficient light fixtures. The result was to get rid of all PCBs.

Santa Rosa schools has replaced 40 percent of all of its light fixtures, leaving about 60 percent still with PCBs, according to Wayne McNamee, director of maintenance and operations.

"We've had leakers, but they haven't caused any problems," McNamee said.

Normally when the ballast leaks, it drops a black, tarry substance onto the light covering. It's that substance which carries the PCBs.

"The amounts that are in there are small," said Vinatieri. "I have fluorescent lights above my desk and I'm not overly concerned about it."

Nabry said they've had 50 to 60 leakers at Sonoma State University, and they were replaced with non-PCB units as they failed.

"It'd be too expensive to replace all at once," he said. "Those ballasts cost $13 apiece and it takes 20 minutes to do it. It'd take $50,000 to $70,000 to replace them all."

Problem overblown?

Nabry was one of many officials who said they feel the danger from fluorescent light fixtures was overblown, a feeling that contributes to the slowness with which PCBs are replaced.

"I think it's going slowly because that's the way bureaucracy moves," Nabry said. "Everybody I've contacted that's deeply involved in the program — like engineers — they're really moving fast and they feel it's important.

"But some of us in the field — electricians and myself — we probably demean it. Maybe because we've worked with it for so long. Five, 10 years ago, we'd probably even had eaten the stuff without thinking about it. We didn't know about it. It looked so innocent lying there on the concrete.

"What else is there around that we don't know about? You hear about something new every day," Nabry said.

When the ballasts do leak, custodians wearing gloves use solvents to wipe up the tars. The gloves, rags and leaking capacitor are then bagged and taken to the county dump.

Holtzer said there isn't much fear the dump is being contaminated by the capacitors, but they do monitor dumping to make sure it isn't contaminated by other PCB-bearing materials.

Jere Johnson of the Environmental Protection Agency, which has banned all production and uses of PCB, said the compound was also used in paints, adhesives, caulking compounds and some hydraulic fluids, but mostly for industrial purposes.

It was used in carbonless copy paper manufactured until 1971 by NRC Corp., she said. While manufacturing of the paper has stopped, the use of the carbonless copy paper hasn't been banned because of the large amount contained in private and public files.

PCB-laden waste oil was also used widely on roads to control dust, Johnson said. That's one of the major ways it has been introduced into the environment. No one had information on specific Sonoma County incidents of PCB-laden oil being used as a dust retardant on roads.

When there are leaks and spills, police and fire department members are usually the first on the scene, and the first to deal with whatever hazardous material might be there.

They're obviously concerned about coming upon something dangerous unawares.

"We're the ones left holding the bag," said Petaluma Fire Chief Robert Sharps. "We are the ones that have to deal with it in a safe and effective manner. The bottom line is the fire department has to deal with it."

County emergency services director Pete Peterka said there are 55 separate fire departments and obviously all of them can't afford to be equipped with suits and material to handle dangerous chemicals.

Special care taken

"Special care is taken to make sure no one goes in and begins cleaning up without the proper equipment," Peterka said. "We're forming two specialist teams — specially trained and specially equipped" to deal with all chemical spills, not just PCBs.

When there is a transformer spill, it's the responsibility of the owner to clean it up.

PG&E workers have been trained for the cleanup, wear protective clothing, will remove any contaminated dirt or grass, as necessary, and dispose of the transformers through proper channels, Miller said.

Miller said they treat all transformer leaks as if they contain PCBs, until the oil is analyzed and is proved otherwise.

The transformers are drained and the oil sent to incinerators in either Eldorado, Ark., or Deer Park Texas.

If the oil is laden with 500 parts per million of PCB, the transformer is then flushed with kerosene for 18 hours, the kerosene also incinerated and the transformer buried at a Casmalia, Calif., dump site.

If the oil has less than 500 parts per million, the transformer is sold for scrap metal, Miller said.

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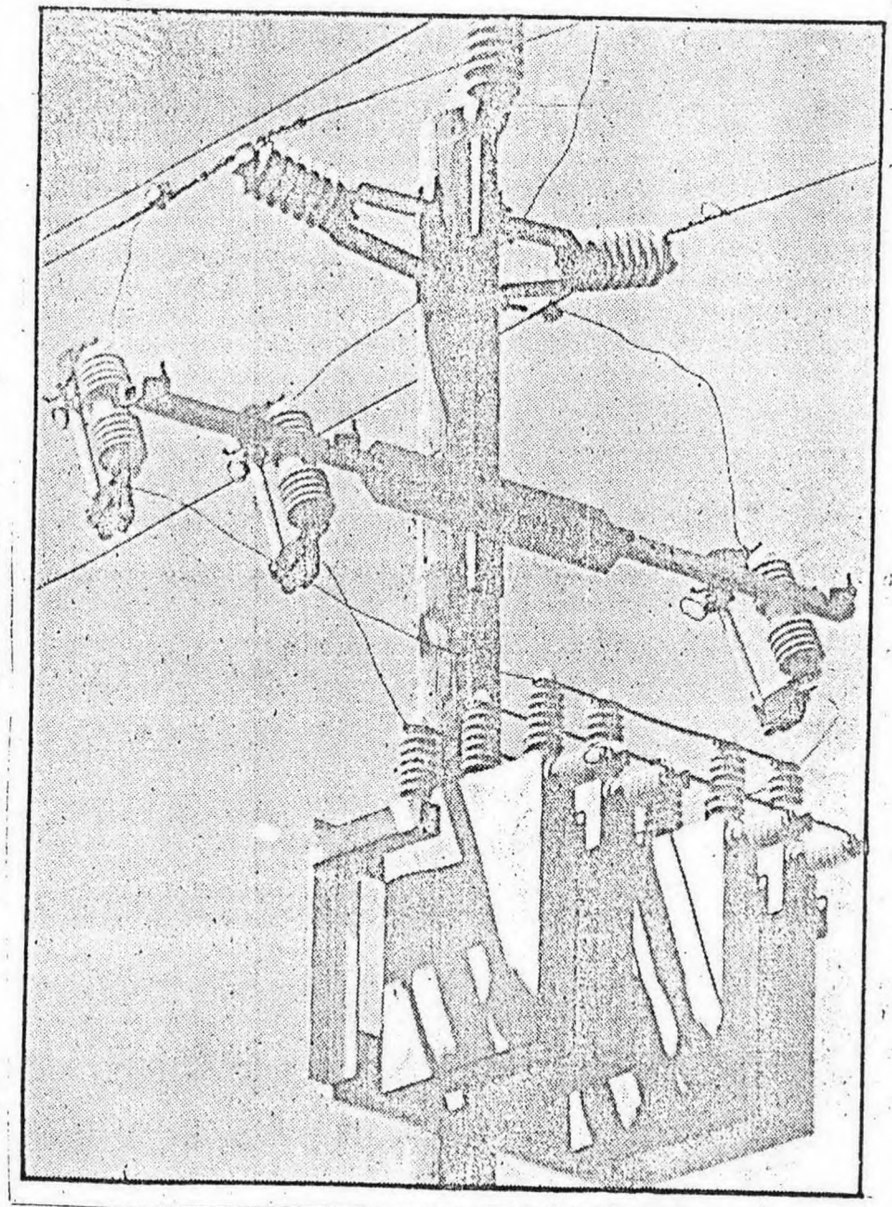

Power pole transformers are one of the more common places where the toxic chemical PCB can be found. Spills from transformers first brought the problem to public attention, but new equipment no longer contains the chemical.

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