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PCBs are hazardous, but not under Oregon law

By Melinda S. Eden
Of The Associated Press

SALEM — Poisonous PCBs were sprayed all over a parking lot in Cinclamas southeast of Portland last week when an electric capacitor exploded near a Safeway warehouse.

A crew from a firm called Western Environmental Services dug up contaminated soil and pavement, sealed the material in steel drums and will deposit them in a landfill this week at Arlington, the state's only disposal site for hazardous wastes.

The cleanup took place under the supervision of the Department of Environmental Quality despite no state laws on the books that declare PCBs as environmentally hazardous waste.

PCBs are polychlorinated biphenyls, nearly indestructible chemical compounds usually fit the form of colorless fluids. PCBs are used primarily as dielectric fluids, or nonconductors of direct electric current, in heat transfer systems enclosed in high-voltage capacitors and transformers.

Scientific evidence indicates that PCBs can mutate genes and perhaps cause cancer. Jim Swenson, DEQ public affairs officer, said they are most dangerous in the food cycle, particularly in fish, because they accumulate to levels toxic to primates.

PCBs were banned in Japan in 1968 after 2,000 persons ate rice oil contaminated with PCBs. They suffered skin lesions, facial swelling, eye disorders and neurological disorders. Infants born to exposed women had grayish brown skin and eye disorders.

Monsanto Corp., chief manufacturer of PCBs, has been phasing them out since 1971 and will reach that goal by the end of this year. PCBs previously appeared in hand soaps, carbonless duplicating paper, asphalt and as plasticizers and sealers.

Portland General Electric Co., owner of the capacitor that exploded in Cinclamas, has 94 million in capacitors and transformers in Oregon, says Rep. Roger Martin, R-Lake Oswego.

Pacific Power & Light Co. owns 35 million in capacitors and transformers that contain PCBs. Other large-scale users are the Bonneville Power Administration, Salem Electric and big industry, such as lumber and aluminum companies.

Martin, House minority leader, introduced a bill in the Oregon Legislature that would order a three-year phaseout of manufacture, sale or use of PCBs in decreasing concentrations.

Under HB3030, by 1980 PCBs could not be used in concentrations greater than 100 parts of PCB per 1,000,000 parts of the product, such as dielectric fluid.

Martin's bill also would require labeling of products containing PCBs after July 1 and filing with the DEQ a written notice of intent to use products containing PCBs.

But the bill is in limbo because Congress passed the 1976 Toxic Substances Act, which provided for regulation of PCBs by the U.S. Environmental Protection Agency.

The EPA is expected to issue rules by July that would limit allowable concentration of PCBs to 50 parts per million. Martin's bill would allow concentrations of 250,000 ppm in 1978 and 1,000 ppm in 1979 before becoming even stricter than anticipated federal regulations by allowing only 100 ppm in 1980.

Rep. Nancie Fadeley, D-Eugene, said Friday she's not inclined to do anything with HB3030 because tougher federal standards would preempt Martin's proposed PCB levels.

In addition, HB3030 says the Environmental Quality Commission eventually could order replacement of capacitors and transformers in Oregon that contain PCBs.

Rep. Fadeley said Martin's electric company sells such equipment. Martin said he sells only transformers and that the fluid in transformers can be drained and replaced with a PCB substitute, such as Dow Chemical's silicone fluid.

Rep. Fadeley said the committee will hear testimony Tuesday on disposal of hazardous wastes. Witnesses will include officials from the DEQ and the regional EPA office in Seattle.

The DEQ already has authority to classify PCBs as environmentally hazardous waste by administrative rule, but Ernie Schmidt, head of DEQ's hazardous waste division, said those hearings probably won't get under way until late this year.

Rep. Fadeley said her committee will decide after hearings whether legislative action is needed to deal with PCBs in view of federal legislation and the DEQ's existing authority.

Meanwhile, DEQ already is treating PCBs as environmentally hazardous waste.

"There are a number of items that you can't sort of wait around, look at the statutes and wait for someone to decide they're environmentally hazardous," Swenson said.

He said it was unclear how HB3030 would be enforced should the legislature approve it.

"It is not our impression that DEQ would have responsibility for policing use of PCBs," Swenson said. "We would handle disposal of PCBs..."

"We had the same problem with aerosol sprays," he said. "The legislature banned them but didn't say how that would be enforced or which agency would handle it."

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Banned after 1979

PCB contamination everywhere

CHICAGO (AP) — Polychlorinated biphenyl (PCB), a manmade chemical used generally in electrical equipment, is found today throughout the United States in the air, water, soil—and in people.

Last year, after tests determined it was a health hazard, Congress passed a law banning all production and distribution of PCBs by 1979.

Approximately 1.4 billion pounds of PCBs have been produced since Monsanto Industrial Chemical Co. of St. Louis began manufacturing the chemical in 1939. At present, government figures estimate that about 750 million pounds are in use in electrical equipment and some 450 million pounds exist in landfills, the air, water, soil or sediments.

Samples of human fat tissues have shown an average of one to three parts per million (ppm) of PCBs in the human population throughout the nation. And a recent study showed that many fish in the Great Lakes contain more than 5 ppm, which is the tolerance level for human consumption set by the federal Food and Drug Administration. The FDA is considering lowering the level to 2 ppm.

Karl Bremer, toxic substances coordinator for the U.S. Environmental Protection Agency, said the chemical is "very persistent and slow to break down, if it breaks down at all."

The first indication that PCBs constituted a health hazard occurred when workers manufacturing the substance developed small bumps, sores and lesions on the skin, Bremer said.

In 1968, about 1,000 persons in Japan consumed rice oil that accidentally had been contaminated with about 2,000 parts per million of PCBs. Reactions ranged from sores, acne lesions, blotching and skin pigmentation problems to miscarriages and stillbirths. Bremer said many of the victims still suffer from the poisoning.

Furthermore, PCBs are a suspected human carcinogen and have produced cancer in rats in studies at the Atlanta Center for Disease Control.

Bremer said that in highly industrialized areas, higher levels of PCBs generally are found in fish, animals and the environment.

He noted, though, that a national survey of PCB content in mothers' milk, conducted by the Colorado State Medical School, showed "it didn't matter much which geographical area the mother came from."

The chemical itself, depending on how much chlorine is present, can be a white, powdery solid or a liquid ranging from a clear, oily substance to a yellow, sticky material.

Its primary use is in electrical equipment, including transformers and capacitors, flourescent lighting, mercury and sodium vapor street lights, central air-conditioning units and high-efficiency refrigerators.

It also has been used extensively in carbonless copy paper, in waterproofing paint, in hydrolic oils, in road oils and in plastics.

But in nearly every instance, acceptable substitutes for the uses of PCBs have been found, Bremer said.

A typical problem resulting from use of PCBs is illustrated by what happened when about 30,000 silos in Illinois, Indiana, Michigan and Kentucky were painted with a waterproof paint containing PCBs, Bremer said.

"The PCBs were transferred from the paint to the grain stored in the silos. That was fed to cows and it came out in the milk. Repainting doesn't get rid of the PCBs. We don't know what to do with those silos. The concrete is contaminated and we're having a real disposal problem."

Disposal of PCBs may become even more difficult. In Southern Illinois, citizens of tiny Wilsonville are enraged that the chemical is being hauled from the St. Louis area and deposited in a landfill near their community.