THE REGULATION OF PCBS: THE UNITED STATES EXAMPLE AND OTHER APPROACHES

Toni K. Allen, Esq., Piper & Marbury
1200 Nineteenth St., N.W.
Washington, DC 20036 U.S.A.

ABSTRACT

This paper discusses the framework developed in the United States to regulate PCBs, against the background of such regulation in Japan, Canada and elsewhere. From this review, it appears that the development of adequate disposal facilities remains as one of the most critical issues.

THE APPROACH IN JAPAN

As might be expected, Japan was one of the first countries to initiate legislation affecting the manufacture of PCBs. In 1973 Japan adopted the law known as the Chemical Substance Control Law under which the import or manufacture of designated chemical substances could be limited or banned. In the next year, 1974, following somewhat on the heels of the now familiar "Yusho" incident, PCBs were classified as a chemical substance subject to the law. This designation by Cabinet Order resulted in limitations being placed on the import, manufacture and use of PCBs. However, an important exception was incorporated which largely permitted the continued use of PCBs in the application in which they had most frequently been used -- as dielectric fluid for electrical transformers.

The next and, it appears, the only other, significant development in Japan affecting the use of PCBs came in October 1976 when the electric utility law was revised to prohibit facilities from using PCBs in dielectric fluid. Equipment in place, however, was exempt.

Some equipment containing PCBs, of course, has been taken out of service in Japan because its useful life came to an end.

It is at this stage that the limits in Japan's program come clearly into focus. As the situation is presented, the equipment cannot be transported, but even if the law allowed such transport, there are no disposal facilities within the country, and export for disposal is not permitted. This result is not unique, but it captures, perhaps in the extreme, a slogan popularized in the United States relating to environmental remedial facilities -- the NIMBY theory -- not in my backyard, but in Japan's case and elsewhere, it is not only not in my backyard, but not in your backyard either.

THE APPROACH IN THE UNITED STATES

Several other countries, including the United States, passed chemical regulation laws in the late 1960s and 1970s. The Toxic Substances Control Act act passed by the U.S. Congress in 1976 -- known familiarly as TSCA (pronounced TOSCA as in the Puccini opera) -- contained an explicit provision generally imposing a ban on the manufacture, use, processing and distribution of PCBs and requiring regulations to be developed to regulate the disposal of PCBs. Short of the constitutional amendments which addressed the sale and use of alcoholic beverages, this law was the country's first to single out a particular chemical.

Notwithstanding the broad prohibitions, the statute also includes mechanisms under which the strict prohibitions can be avoided. First, as to use, the statute allows PCBs to be used in a totally enclosed manner (although this provision has little practical application). A second, and much more accommodating, exception is provided whereunder EPA can authorize the use of PCBs if it finds that such use does not pose an unreasonable risk of injury to human health or the environment. It is under this exception that today's uses of PCBs in the United States fall. For manufacture, processing and distribution in commerce, a more limited exception mechanism is provided under which EPA can grant a one-year (renewable) exemption for a particular activity if it finds that an unreasonable risk of injury to health or the

environment would not result and that a good faith effort has been made to develop substitute substances (which themselves do not pose an unreasonable risk or injury to health or the environment).

The regulations which implement the statute take up over 50 pages in the Code of Federal Regulations. They are complex, cover a broad range of issues, and reflect to some extent practical concerns. For example, it was necessary to recognize in the regulatory scheme the phenomenon that PCBs are inadvertently generated during some manufacturing processes.

Regarding use and disposal, the regulatory scheme adopted by the U.S. EPA initially makes important distinctions based on the concentration of PCBs found, with different regulatory requirements attaching depending on whether the concentration is below 50 ppm, between 50 and 499 ppm or 500 ppm and greater. And generally today, with one or two important exceptions, materials that contain PCBs in concentrations of less than 50 ppm are not subject to any regulations at the federal level.

These distinctions play a critical role in determining the method to be used to dispose of a particular PCB waste or the locations where certain electrical equipment containing different concentrations of PCBs can be used. For example, PCB Capacitors, which contain PCB levels at or approaching 100%, can continue to be used only in restricted access areas, such as substations. Further, the continued use of many PCB Transformers, in which the dielectric fluid contains PCBs at a level of 500 ppm or more -- usually askarel transformers -- has been restricted, particularly in or near commercial buildings or where the use poses an exposure risk to food or feed. On the other hand, mineral oil transformers in which the PCB concentration usually is less than 500 ppm, if the equipment is contaminated at all, may be used indefinitely.

Aside from their use in electrical equipment, PCBs under the U.S. approach can continue to be used today in railroad transformers if the PCB concentration is 1000 ppm or less, in heat

transfer and hydraulic systems if the concentration is below 50 ppm, in carbonless copy paper, in the compressors and in the liquid of natural gas pipelines if the concentration is less than 50 ppm, and in certain research and development and scientific applications.

Disposal requirements, like the use rules, vary depending on the concentration of PCBs in the waste. For example, liquids containing 500 ppm and over must be sent to an approved incinerator, solids to an approved landfill. On the other hand, liquids containing 50-499 ppm can be burned in high efficiency boilers (e.g., an electric utility boiler), and the carcass from a drained transformer which had contained liquids with a PCB concentration of 50-499 ppm is not regulated (however, EPA interprets this phrase to mean the carcass must be smelted or sent to a sanitary landfill).

In addition to these disposal methods, other alternative methods can be used if EPA's approval is obtained. Most familiar among these methods are dechlorination processes. Finally, used oil containing PCBs in concentrations less than 50 can be burned for energy recovery in certain incinerators, high efficiency boilers and certain industrial furnaces and boilers. Such used oil, however, since 1979 cannot be used as a sealant, coating or dust control agent. These prohibited uses include road oiling and use as a pesticide or herbicide, or rust preventative on pipes.

In addition to these general requirements, the U.S. PCB rules include extensive, and sometimes quite complex, provisions regarding the labeling of certain equipment, recordkeeping, tracking of PCB waste, storage of PCB waste, prohibitions on the import and export of PCBs, and inspection of certain equipment. Further, in 1987 EPA issued a PCB spill cleanup policy under TSCA.

As with the rest of the rules, the spill cleanup requirements differ depending on the location of the spill and the concentration of PCBs in the spilled material. But somewhat

uniquely in the annals of environmental regulation, the cleanup provisions were developed largely through a cooperative effort of industry and environmental groups. EPA then considered certain risk assessments in crafting the final standards, drawing largely from the consensus proposal.

The cleanup policy covers spills containing PCBs in concentrations of 50 ppm or more. In broad terms, a visible trace cleanup is required for spills of mineral oil onto soil from contaminated electrical equipment with concentrations in the 50-500 ppm range. Spills of such material onto a solid surface require a double wash. Higher concentration spills, those involving 500 ppm or more, must be cleaned to varying levels depending on the location of the spill (e.g., 10 ppm with a 10-inch cap in a residential area; 25 ppm in restricted access areas, such as electrical substations and other industrial facilities).

THE ISSUE OF DISPOSAL

A great number of regulatory requirements must be met in the United States to obtain approval for the operation of an incinerator in which PCBs can be burned or for the operation of a chemical waste landfill in which PCB waste can be buried. In addition, there has been considerable public resistance to siting these types of facilities, wherever the location. Nonetheless, today we have five fixed-facility PCB incinerators and eight PCB landfills in operation. In contrast, none exist in Japan. Canada has some limited mobile treatment facilities, but no permanent destruction facility, except for one in the Province of Alberta. The facility, however, generally will not accept waste from the other provinces. Thus, as in Japan, PCB waste in Canada is drummed and stored; not forgotten, but also not disposed of. And New Zealand, which imposed a five-year phase out on the use of PCBs appears to be looking totally to foreign sources for disposal of the material removed from service -- if it can find such a source.