Restored

ASHINGTON, DC — A House-Senate conference committee restored funding for the VHSIC program to the Defe Authorization Bill, wh was ready to be brought for a vote before the full Congress at presstime. But the committee inserted new restrictions on the use of the technology into the bill before it was allowed out of committee.

The full $30.43 million, the amount originally requested, was authorized, but as a program line in the Air Force budget (even though all ser-

(See VHSIC, Page 2)



G.L. Bubbar has devised a way of disposing of PCB askarels that is fast and inexpensive. See story below.

New Method May Allow Disposal Of Askarels

By Charles Small

WATERLOO, CANADA — A researcher at the University of Waterloo here has developed a method for dechlorination of PCBs that may allow the electronics industry to dispose of the millions of tons of askarels (transformer and capacitor insulating oil) that have been warehoused since the chemicals were banned by the EPA in 1977. G.L. Bubbar, un' the direction of James G. th at UW's Guelph Center, has demonstrated a cyclic converter that destroys 99.9 percent of the PCBs in a solvent and recovers nearly all of the solvent for reuse.

The R&D was done for the Electrical Association of Canada under a grant from Ontario Hydro. Ontario Hydro's interest in disposal of askarels is easy to understand: it has 17 million pounds of askarels in storage awaiting a safe disposal method.

Askarels are halogenated hydrocarbons that, like DDT, have been shown to be carcinogenic and to persist in the environment. For a time after the askarels had been banned, the sole U.S. manufacturer, Monsanto, was destroying the chemical in an incinerator. The incineration was later halted by EPA order and the askarels have been held in storage ever since.

Bubbar notes that the U.S. Army at Fort Dietrich, MD, tried to solve the problem. The Army's solution proved impractical because it took six hours to destroy the PCBs, used four parts of reagent to each part PCB (mole ratio),

(See New Method, Page 4)

Standard ANSI, EP

By Jer

SAN DIEGO, CA American Nationa the National Inst Safety and Healt working on new st exposure, which very small part o Richard Tell of th Protection Agency, Symposium here p ulation exposure t tion that showe dwellers in 15 ci percent of the U.S. to less than the l standards.

In fact, the dat exposed to less ra of Soviet standa times tougher tha U.S. standards.

New Method Of Askarel Disposal Requires Only 30 Minutes; Reagent Is Reusable

(Continued from Page 1)

and the reagent could not be reused.

In contrast, Bubbar's process is over in 15 to 30 minutes, uses one half part reagent to each part PCB, and uses the reagent over and over. In this process, the chlorine in the PCBs is converted to sodium chloride—common table salt. And the organic part of the PCB, which is a polymerized aromatic hydrocarbon, can be burned safely.

In addition, Bubbar's reagent is much cheaper than that used in the Army's process. The most important feature of Bubbar's process is the reclaiming of the reagent since one component of the reagent, tetrohydrofural or THF, is very expensive.

Bubbar's cyclic reactor can be made portable and taken to the site. The converter can also be applied to a spill. If PCBs are spilled onto the ground, the soil is simply collected and the moisture removed. The moisture is then treated in the cyclic converter.

Bubbar's process is not limited to askarels. It can also handle PBB, DDT, Kepone, Myrex and other hazardous haloginated hydrocarbons.

Details of the process will be published in the *Bulletin of Environmental Contamination Toxicology*. Patents are pending.

Bubbar is presently working on methods to clean up transformers and decontaminate transformers before and after the askarels have been removed.

For more information, contact G.L. Bubbar, Guelph Waterloo Center Chemistry Dept., University of Waterloo, Waterloo, Ontario, Canada N2L3G1

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