DRAFT - R. G. POTTER
11/12/75

MONSANTO PCB POSITION PAPER

THE PROBLEM

Monsanto is the only known U.S. producer of polychlorinated biphenyls (PCB's) which we have supplied to the domestic marketplace since 1929. We are one of several European producers. Our worldwide sales peaked at approximately 80M lbs. in 1970 and today are roughly half that volume after our voluntary withdrawal in 1971-1972 from all but sealed electrical equipment applications in transformers and capacitors. Additionally, we have introduced lower chlorinated homologs which are more biodegradable plus we NOW offer an incineration service for liquid PCB wastes.

Since the late 1960's, PCB's have been the subject of mounting scientific and governmental attention and concern due to their continued presence in the environment and reports of toxicity effects in test animals including interruptions in their reproductive system. Monsanto initiated feeding studies with Industrial Bio-Test which have concluded PCB's to be non-carcinogenic. A feeding study recently concluded by a government researcher claimed apparent liver cancer resulting from PCB's -- an opinion which is not agreed to by AT LEAST ONE other experts in the field observing these same results.

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The EPA, several large midwestern states, plus New York State are most concerned about the relatively high PCB level observed in fish. Some INFORMED observers also feel the EPA is attempting to use the PCB issue as an example to illustrate their STATED need for a strong toxic substances control act.

POTENTIAL IMPACT ON MONSANTO

Monsanto's reputation as a responsible member of corporate society may or may not be adversely impacted by the PCB issue. Steps are NOW being taken to better determine this potential impact.

Financially, the immediate impact on the corporation should we precipitously terminate PCB sales would be approximately $18M in yearly sales and $6M in yearly gross profit, worldwide. Phase-out and write-off costs are estimated to be $2.6M. Additionally, the potential loss to other Monsanto biphenyl-related products could be another $15M in sales and $5-6M in gross profit.

Customer relations will likely be SEVERELY strained if we cease PCB production before they have proper acceptable alternatives made available to them.

POTENTIAL IMPACT ON OUR CUSTOMERS

Our capacitor customers have non-PCB options available to them including phthalate esters, mineral base oils and Monsanto's developmental product MCS 1238. A switch from PCB's will force

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them to forego fire resistance, plus they would have to accept possible major plant investments for process modifications. Our transformer customers could relax fire resistance considerations and substitute mineral oil or high flash point silicones instead of PCB's. Some transformer installations could be designed as dry type gas units. Monsanto is in the preliminary development stage for non-PCB products for this part of our DIELECTRIC market.

KNOWN Alternate products sacrifice fire resistance and this would likely require changes in not only our customers' processes but force negotiations with insurance underwriters, possible changes in building codes, ~~and~~ an interim disruption in power distribution and DELAYED new construction.

One possible customer reaction to Monsanto unilaterally terminating PCB production in the absence of government regulation would be the large scale ~~incorporation~~ IMPORTATION of European PCB, although this would not be considered to be a probable alternate long-term.

ALTERNATIVES OPEN TO MONSANTO

Monsanto's options in the absence of a governmental ban can generally be viewed as three: (1) Continue PCB sales until either legislation prohibits sales or our customers abandon the product; (2) Cease production precipitously; or (3) A planned replacement with non-PCB dielectrics which satisfy our customers performance needs and allows Monsanto to maintain most of our existing market.

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Alternate #1, ~~of~~ continued indefinite PCB sales, is probably unrealistic in light of the growing policital environment surrounding PCB's and MONSANTO would be considered irresponsible by our critics.

Alternate #2, ~~of~~ a precipitous shutdown, would have serious consequences not only to our image with Monsanto customers but would likely result in some serious disruptions in our nation's power distribution system, which would have complex retrofitting and maintenance problems.

Alternate #3, ~~of~~ a planned non-PCB replacement program to be accomplished over the next few years, is the most reasonable, responsible, economical course of action.

SPECIALTY CHEMICALS DIVISION PLANS

We have set the following plans into action:

- Established a corporate action group chaired by Pierre Wilkins to assess the current affect of the PCB issue on Monsanto's public image and the impact of a voluntary PCB withdrawal. Completion by 12/15/75 is targeted.

- Establish a PCB task group CHAIRED BY JOHN ZEMAN to further refine and have ready for implementation an existing contingency plan to handle any legislated termination of PCB sales. Plan completion by 12/15/75 is targeted.

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- Established THE SAME A PCB task group to develop and implement a complete business plan for the earliest feasible replacement of PCB's with non-PCB alternates made by Monsanto which satisfy our customers needs and protects our existing marketplace. Plan completion by 2/1/76 is targeted.

- Appropriate Monsanto personnel are visiting with the staffs of the various interested federal agencies (NIOSH, FDA, EPA, etc.) in the company of the president of Bio-Test to review with those agencies ~~our~~ the accumulated data showing the non-carcinogenic conclusions reached by the Bio-Test feeding studies. Additionally, our overall PCB sales program will be reviewed to help convince these agencies of Monsanto's responsible course of action. Visits will be completed by November 14, 1975.

- Appropriate Monsanto people will participate in the November 19-21, EPA Chicago PCB Symposium to review replacement product problems, EXPLAIN our restricted sales program, and REVIEW the Bio-Test data.

STATUS OF MONSANTO'S ALTERNATE PRODUCTS

Two complimentary replacement product programs are in progress. First, reduced chlorine containing PCB's which are significantly more biodegradable have been developed and are currently being

DSW 238461

STLCOPCB4060454

sold into the transformer market (PCB 1016). Similar lower chlorine containing PCB's are currently under customer evaluation for use in capacitors (MCS-1043). This is regarded as a short-term approach to the PCB issue and can be supplied commercially with minor modifications to our existing plant.

Our larger program is to successfully develop economical non-PCB replacement fluids possessing good dielectric properties which are safe and environmentally acceptable. Currently our target is to have non-PCB products which can be commercialized within 2-3 years although the realism of this target date will HAVE TO REVERIFIED. ~~be further studied~~. Multi-drum quantities of two non-PCB replacement fluids for capacitors (MCS-1238 and MCS-1588) are currently undergoing field testing by eight customers with a go/no-go decision expected by mid-1976. Preliminary acute toxicity tests were satisfactory and two-year animal feeding studies have just been initiated. Replacement products for transformer use are still in development (MCS-1838 and 1839) with initial small samples now available for preliminary customer evaluation.

Some lower level of initial exploratory work for longer range candidates is ALSO being conducted.

RECOMMENDATIONS TO MANAGEMENT

We are asking corporate management to endorse our ~~non~~ PLANNED PCB replacement program concept which will be in completed business plan form for ~~final~~ MANAGEMENT review by February 1, 1976.

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