

DRB- 1/8/76

Opening Remarks - F. J. Fitzgerald Meeting with Russell Train,
Administrator of the EPA - Washington, D.C. -
Jan. 14, 1976

Good afternoon, my name is Jack Fitzgerald. I am a vice president of Monsanto Company, a member of its Corporate Administrative Committee and managing director of Monsanto Industrial Chemicals Co., an operating unit of Monsanto Company.

① Since it is the Monsanto Industrial Chemicals Co. that manufactures dielectric fluids, ~~consisting~~ polychlorinated biphenyls, John Hanley, our president, has asked me to represent him today and reaffirm to you Monsanto's commitment to work with the EPA and the electrical industry in finding solutions to the PCB issue.

Let me ~~state~~ ^{at the outset} state that Monsanto agrees wholeheartedly with the EPA's ~~desire~~ ^{the} desire to work toward ^{eventually} goal of eliminating ^{all} ~~further~~ use of PCBs.

Monsanto has already taken several steps designed to restrict the entry of PCBs into the environment.

② First, Monsanto ^{began} moved to limit the use of PCBs solely to ^{this} closed electrical systems, ^{back 1970 and fully implemented by late 1971} in ~~the~~. This voluntary action, it should be noted, occurred prior to the completion of the Federal Interagency Task Force study on PCBs that was finished in 1972.

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MONS 060121

Since I am responsible for the operating unit which manufactures polychlorinated biphenyl dielectric fluids, John Hanley, our president, ^① has asked me to represent him today and reaffirm to you Monsanto's commitment to continue working with the EPA and the electrical industry in finding solutions to the PCB issue.

First, Monsanto began restricting the use of PCBs solely to closed electrical systems, for which no viable alternates existed, ^② back in 1970. It should be noted that this voluntary program was fully implemented prior to the completion of the study done on PCBs by a Federal Interagency Task Force in 1972..

While the PCB issue is a tough one to handle, the difficulty does not nor will not in the future stem from any lack of cooperation on the part of Monsanto. The problems that we face, collectively, are rather rooted in the unique characteristics of PCBs and the irreplaceable role they have served in our electrical-industrial environment for the past 45 years. ^{The challenge:} Replacing them in an orderly manner without creating another hazard of equal or potentially greater consequence, while at the same time avoiding serious power and transportation disruptions, MONS 060122

Let me emphasize that we have no desire to remain in the PCB manufacturing business any longer than is necessary. ^{By this I mean} As soon as we are satisfied that the electrical power supply industry's needs for useable, acceptable alternate dielectric fluids have been met by whomever, Monsanto will voluntarily shut down its PCB manufacturing unit, ~~and phase out of the business.~~ ^{In the interim, we will continue to work with industry and government to ensure that the restrictions and controls we implemented in the early 1970's remain in force and are diligently enforced.}

Secondly, Monsanto has been working for a number of years on non-PCB replacement products. These materials, designed to ~~replace~~ ^{replace} ~~eliminate~~ PCB ~~contaminants~~ fluids in capacitors and transformers, are currently being evaluated by the major electrical manufacturers in the United States.

③ While the PCB issue is a tough one to handle, the difficult does not or will not arise from any lack of cooperation, particularly from Monsanto. The problems that we face are rather rooted in the unique character of PCBs and the role they have served in our electrical-industrial environment. Replacing that role in an orderly manner without creating another hazard of equal or potentiall greater consequence is the problem.

④* Let me emphasize that we have no desire to remain in the PCB manufacturing business any longer than is necessary to ~~develop~~ ^{permit} an orderly transition to replacement products which meet the needs of the electrical industries which power America.

*industry
desire
achieve
eliminate*

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MCNS 060123

BRIEF DESCRIPTIONS OF SIGNIFICANT ISSUES ARISING FROM THE PCB CONTROVERSY

Monsanto Progress on Alternate Products

It's important to discriminate between fluids designed for transformer cooling and those designed for capacitor impregnation. Because each application has requirements not shared by the other, Monsanto knows of no candidate replacement products which would be applicable to both.

For capacitors, we have studied several alternative technical approaches and have settled on a product which duplicates the electrical behavior of PCBs, yet contains no chlorine. Our testing program has included accelerated life tests on capacitors impregnated with this material. While our ^{own} results ~~are~~ ^{are} favorable, the ultimate acceptance must come from our customers. Sample quantities of this replacement ^{Candidate} ~~are~~ ^{Currently} being evaluated by customers. Should we receive an early favorable verdict from enough of the industry to support an investment, we could get into interim production at a volume sufficient to supply the industry in a relatively short period of time. Initially, the replacement product would be more expensive since the electrical industry would have to be supplied from an interim production facility. A fully dedicated plant could be constructed within two to three years.

In transformer fluids, we are not as far along. PCBs are only used in those applications where a high degree of fire resistance is required. Unfortunately, there is no accepted, quantitative

definition of the degree of fire resistance needed in a fire-resistant transformer fluid. We have ^{one promising} ~~come up with a~~ candidate ^{is currently being readied for} ~~product~~ which ~~we will now conduct~~ testing by transformer manufacturers. ~~We believe we have a good (competitive) product that~~ ^{represents our best solution based on our extensive research in this field}

^A Key issues in the final acceptance of these candidate dielectric fluids ^{are} ~~is~~ their environmental and toxicological ^{these issues} properties. We have approached ~~this problem~~ in two ways: first by pursuing chemical structures thought likely to be relatively innocuous from previous experience or analogy; and second by a thorough testing program. A report on our testing to date will be available in a few weeks. While some of the more extended tests are still under way, I can say that we are anticipating very positive results.

Cleanup Action at our Plants

Measurable losses from the Sauget Village treatment plant to the environment are approximately one to two pounds per day, which equates to approximately ^{is the equivalent of} one to two parts per trillion PCBs ^{(Two parts per trillion ~~is~~ 2 pennies out of 10 billion dollars).} in the Mississippi River at average flow rates. While there presently are no formal PCB discharge limits, proposals under consideration call for ambient water concentrations at levels not to exceed one part per trillion.

MONS 060125

The level of PCBs in the atmosphere is less than Threshold Limit Values (TLV) using sampling and analytical techniques currently available. TLV refers to airborne concentrations of substances and

represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effects. We presently are manufacturing about 80,000 pounds per day of PCBs.

In our manufacturing area we have acted to prevent loss of PCBs in the environment by literally making the department a "concrete bathtub." Drainage is collected in an isolated PCB sewer system with settling basins to insure PCB containment in case of accidental spill or equipment failure with the capability of monitoring the effluent from the department.

Storage tanks are blanketed with nitrogen to eliminate tanks "breathing," and mist eliminators have been installed in vapor lines to eliminate the possibility of PCBs leaving the manufacturing area. The key to our continued success in controlling PCBs is in our maintaining a high housekeeping level.

A Monsanto chemical waste treatment facility, to be completed in late 1976, ~~followed by a metropolitan treatment plant in 1982~~
 93 will be further steps in reducing PCB effluents, ~~toward a negligible~~
~~value.~~

Steps taken in labeling and transport practices

Monsanto ships PCB fluids in both bulk carriers and in drums. Bulk shipments are made in a Monsanto-owned fleet of tank

cars which is used exclusively for that service, or in customer-owned tank trucks. Drum shipments are made in special reinforced drums which we believe to be the best available.

A multi-lingual warning label is affixed to each package giving a brief description of the nature of the material and appropriate actions to be taken in the event of a spill or leak. We also supply a label to be used on return shipments for incineration which gives similar information.

The Monsanto Incineration Service

An incinerator was built at our Sauget, Ill., plant for the specific purpose of destroying waste PCB-containing liquids, both from our own operations and from our customers. Firebox temperatures above 2000°F are maintained to completely destroy the PCB compounds, and combustion products are removed in scrubbers. Routine sampling of both the stack and the scrubber effluent has confirmed the effectiveness of the system. During 1975 our incinerator at Sauget, Ill., burned 3.5 million pounds of PCBs.

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PCB PREPAREDNESS O&A -- 1/7/76

- Q1. Assuming acceptable replacement dielectric fluids become available from some source, be it Monsanto, Dow or whomever, would Monsanto then voluntarily phase out its PCB production in the absence of any federal mandate?
- A1. Of course! When we made the conscious decision back in 1970 to begin restricting sales to closed-system dielectric uses, the main reason we elected to continue supplying the electric industry was that they had no viable alternates to turn to. EPA ^{also} recognizes this, even today. At ^{his December} ~~any~~ press conference, Mr. Train said he would not ask Monsanto to stop production because that would shut down the electrical power industry and the railroads in short order. He said we must find a way to proceed without shutting down the country. This is precisely the position to which Monsanto has been committed since 1970.

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Monsanto has every intention of eventually phasing out its PCB production (in a planned and orderly manner) as soon as we are satisfied that the electrical power industry's needs for usable, viable alternates have been met.

In the interim, we will continue to work with industry and government to ensure that the restricted measures and controls we voluntarily implemented in the early 1970s remain in force and are diligently pursued. Mr. Train's objectives are aimed at the same results.

- Q2. According to EPA, Monsanto makes about 40 million pounds of PCBs per year at its Sauget, Illinois Plant. What does Monsanto know about the effects this large volume has had on its plant workers and the nearby residents? Surely they must be inhaling vapors and being contaminated in other ways. What assurances can you give that this won't become another asbestos, VCM or Kepone situation? How many people are employed in the PCB production/incineration units?
- A2. PCBs are considered by our 19 production people and five incinerator operators to be a normal industrial chemical as contrasted to many which are actively toxic. We provide the same safeguards and monitoring program for PCBs as we do for other industrial chemicals. Exposure to the material and its vapors is very limited, protective clothing and related safety equipment is not only provided but required.

Proper ventilation is also provided and standard industrial hygiene practices are vigorously followed. We perform routine maintenance and safety inspections on all the manufacturing equipment and we periodically monitor and sample the workers environment. Each plant employee is eligible to undergo a thorough physical examination every year at company expense. Several months ago a group from the National Institute of Occupational Safety and Health (NIOSH) visited the Krummrich plant and concluded that employee exposure to PCBs in our operation was too low to be of concern.

NOTE - Any additional questions on this subject or on the subject of animal testing should be referred to Dr. G. Roush, Monsanto's Medical Director.

Q3. The EPA said that from two to five pounds of PCBs per day are discharged into the Saugei waste treatment plant from Monsanto's production facilities. Is this true? And what has Monsanto done to minimize its discharges?

A3. No. Our current measurable losses to the environment are approximately one to two pounds per day. This equates to approximately 1 to 2 parts per trillion in the Mississippi River at average flow rates. ^{(One part per trillion is the equivalent of one penny out of a dollar).} Levels of PCBs in the ambient atmosphere are less than

Threshold Limit Values (TLV) using sampling and analytical techniques currently available. ^(many methods are not available here) Since 1969, we have invested more than 30 man

years of work and millions of dollars in this program.

^{(TLV) which is also included at the end of page 7} In our manufacturing area, we have taken a number of significant steps to prevent loss of PCBs to the environment. In essence, we have made the department a "concrete bathtub." Drainage is

directed to trenches and piping, and then to one of two 3,000-gallon settling basins. This insures PCB containment in case of accidental spill or equipment failure.

We have also installed an incinerator to safely dispose of PCBs. This is accomplished through incineration at or above 2000° +F. Use of the incinerator and other technical assistance is available to our customers on a continuing basis.

When small quantities of PCBs are collected into the settling basins in the manufacturing area they are later pumped into drums, and eventually incinerated. In the incinerator area itself, drainage is directed to trenches and piping which flow into a 10,000-gallon basin. Recovered PCBs are periodically pumped to storage, or incinerated.

In the manufacturing area, we have also rerouted relief valve lines and atmospheric vents through catch tanks, or redirected them to settling basins.

We also provide nitrogen blanketing on storage tanks to eliminate any "breathing" of the tanks and resultant PCB escape.

We have installed mist eliminators in vapor lines - once again to eliminate the possibility of PCBs leaving the manufacturing area through these lines.

Finally, we have replaced underground sewers with above-ground sewers, and repaired or combined others, so that we can monitor

the effluent from the department. In addition, this will prevent any unknown buildup of PCBs in our sewer systems or any contamination of PCBs into other sewers.

Much of the success of our efforts also depends on maintaining a high housekeeping level in the department itself. Among the housekeeping responsibilities our operators have assumed are these:

--All pumps are checked for leakage on every shift.

Drip pans that collect leaks are emptied into scrap PCB drums.

--All leaks are reported and documented so that corrections can be made and settling basins observed.

--"Floor Dry" is used to absorb any PCBs that have spilled or leaked. If it becomes necessary to flush PCBs to the settling basin, a minimum amount of water is used.

--Sampling drums and scrap-PCB drums are quickly palletized, labeled and transferred to the incineration area.

Through these kinds of programs, we feel we have literally built a "concrete bathtub" to catch and safely dispose of PCBs at our manufacturing location.

Q4. Could you describe disposal policies regarding spent PCBs?

A4. Guidelines for handling and disposal of capacitor and transformer grade PCBs were prepared in 1972 and have been approved by the American National Standards Institute. These guidelines are intended to restrict the release of PCBs into the environment. They provide standards for incineration as well as for disposal by other than burning. Incineration facilities must meet the applicable requirements of the state in which they are located. In addition, certain landfill sites have been classified by state governments and the federal government as suitable for the disposal of toxic and hazardous liquids. Where these "environmental" landfills exist, they may be used for the disposal of liquid PCB wastes.

Q5. How are requests for incineration handled by Monsanto?

A5. Arrangements for all return shipments of PCB containing materials to Monsanto are handled individually. Instructions are forwarded for each consignment to customers to ensure that they are aware of any changes in procedure. Monsanto supplies pre-addressed drum return labels marked "Disposal Only." All drums used must meet DOT 17E specifications as to construction. Monsanto supplies an identification number for each shipment to be placed on the bill of lading and on each drum.

Monsanto does not accept solids such as sawdust, rags or sludge. These items can not be handled in the incinerator. A letter is provided by Monsanto to be attached to the driver's copy of the bill of lading. The subject of the letter is to be brought to the driver's attention. Included are instruction to the driver to prevent introduction of the liquid into the environment. Included in the letter are phone numbers of Monsanto Company officials and the shipper. .

- Q6. Could Monsanto reach the "zero" discharge level being proposed by EPA?
- A6. No. "Zero" discharge at a facility producing some 40 million pounds per year would be technically impossible. Measurable losses from the Sauget Village treatment plant to the environment are approximately one to two pounds per day, which equates to approximately one to two parts per trillion PCBs in *(one part per trillion is the equivalent of one penny out of 10 billion dollars)*. the Mississippi River at average flow rates. While there presently are no formal PCB discharge limits, proposals under consideration call for ambient water concentrations at levels not to exceed one part per trillion.
- The level of PCBs in the atmosphere is less than Threshold Limit Values (TLV) using sampling and analytical techniques currently available. [TLV refers to airborne concentrations of substances and represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after]

day without adverse effects. We presently are manufacturing about 80,000 pounds per day of PCBs.

In our manufacturing area we have acted to prevent loss of PCBs in the environment by literally making the department a "concrete bathtub." Drainage is collected in an isolated PCB sewer system with settling basins to insure PCB containment in case of accidental spill or equipment failure with the capability of monitoring the effluent from the department. Storage tanks are blanketed with nitrogen to eliminate tanks "breathing," and mist eliminators have been installed in vapor lines to eliminate the possibility of PCBs leaving the manufacturing area. The key to our ~~success~~ ^{our ability to} success in controlling PCBs is ~~in our~~ maintaining a high housekeeping level.

A Monsanto chemical waste treatment facility, to be completed in late 1976, followed by ~~a metropolitan treatment plant in 1982-83~~ will be further steps in reducing PCB effluents. ~~toward a negligible value.~~

- Q7. In addition to Monsanto's own incineration service, are there other locations where PCBs can be disposed of properly?
- A7. Disposal service companies, meeting American National Standard Guidelines relating to the disposal of PCB containing materials are located in at least nine states and include both incineration services and environmental landfills. States where these facilities

are located include the following: California, Delaware, Illinois, Kentucky, Louisiana, New York, New Jersey, Texas and Washington.

Q8. Mr. Train indicated that Japan had banned PCBs and that EPA will conduct a thorough review of the Japanese experience. If a highly industrial nation like Japan, with widely acknowledged electronic technology can get along without PCBs,

[Handwritten signature]
A6.

why can't the U.S. electrical power industry? Monsanto and the U.S. electrical industry are often asked this question. In the first place, it should be pointed out that the major uses for PCBs in Japan were not electrical but rather "open applications," particularly for carbonless paper. The Japanese power distribution industry, less advanced than the U.S. technically, had never actually gotten around to taking advantage of fire resistant transformers to the extent they have been used in this country. Most of their transformers were either using mineral oil or were dry-type units. The Japanese capacitor industry on the other hand was only in the beginning stage of converting its equipment to the more reliable PCB dielectrics when the ban was announced. Reliability standards for capacitors in the U.S. are much more stringent than they are in Japan or anywhere else in the world. So the Japanese ban really did not materially impact that country's electrical power distribution industry.

A9. We really don't understand his reasoning here. Mr. Prain has said that Monsanto's plant is not the source of PCB pollution and that he would not ask Monsanto to stop production of PCBs because that would "shut down the country." So we ~~thereby~~ doubt that he has Monsanto or PCBs, per se, in mind when he speaks of the need for Toxic Substance Control legislation.

We therefore can only assume that he is referring to sources of pollution and/or imported material which, we are told, is being used in "open applications." (Figures released in December 1975 by Rep. Les Aspin, D-Wis., indicate PCB imports ^{have} ~~may be as high~~ as 385,000 pounds in 1975 -- up 40 per cent since 1972).

In Monsanto's opinion, the EPA has all the authority it needs under section 504 of the Federal Water Pollution Control Act to control PCB ~~pollution~~ ^{imports} and limit PCB discharge into the environment.

MONS 060137

~~Under~~ Section 504 (Emergency Powers) of the Act

reads as follows: "Notwithstanding . . .

WATER POLLUTION CONTROL ACT.

72- October 18, 1972

October 18, 1972

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Pub. Law 92-500

88 STAT. 881

ut means those pollutants, or compounds causing agents, which after emission, inhalation or assimilation into the environment or indirectly by it, on the basis of information available, disease, behavioral abnormality, physiological malfunctions (including or physical deformations, in such

means any discernible, confined and not limited to any pipe, ditch, water course, container, rolling stock, vessel, or vessel or other floating or may be discharged.

discharge shall mean the determination, including accumulation of pollutants due to the discharge of pollutants, including sampling of organisms and of the food chain appropriate to local, and biological characteristics within frequencies and locations used without qualification includes discharge of pollutants.

schedule means a schedule of reasonable sequence of actions or operations, effluent limitation, other limitation,

means those industries identified in the Pollution Manual, Bureau of the Environment, under the category 'Division' other classes of significant waste discharge the Administrator deems appropriate. means the man-made or man-induced chemical, biological, and radiological

the preceding provisions shall be extended until the date on which his successor's appointment is effective. None of the members appointed by the President shall be eligible for reappointment within one year after the end of his preceding term.

"(B) The members of the Board who are not officers or employees of the United States, while attending conferences or meetings of the Board or while otherwise serving at the request of the Administrator, shall be entitled to receive compensation at a rate to be fixed by the Administrator, but not exceeding \$100 per diem, including travel-time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law (5 U.S.C. 78b-2) for persons in the Government service employed intermittently.

Compensation.

"(b) The Board shall advise, consult with, and make recommendations to the Administrator on matters of policy relating to the activities and functions of the Administrator under this Act.

60 Stat. 499;
63 Stat. 190,
5 USC 3703,
5707 and notes.

"(c) Such clerical and technical assistance as may be necessary to discharge the duties of the Board shall be provided from the personnel of the Environmental Protection Agency.

EMERGENCY POWERS

"Sec. 504. Notwithstanding any other provision of this Act, the Administrator upon receipt of evidence that a pollution source or combination of sources is presenting an imminent and substantial endangerment to the health of persons or to the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish, may bring suit on behalf of the United States in the appropriate district court to immediately restrain any person causing or contributing to the alleged pollution to stop the discharge of pollutants causing or contributing to such pollution or to take such other action as may be necessary.

"CITIZEN SUIT

"Sec. 505. (a) Except as provided in subsection (b) of this section, any citizen may commence a civil action on his own behalf—

"(1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the eleventh amendment to the Constitution) who is alleged to be in violation of (A) an effluent standard or limitation under this Act or (B) an order issued by the Administrator or a State with respect to such a standard or limitation, or

USC proc.
title 1.

"(2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this Act which is not discretionary with the Administrator.

The district courts shall have jurisdiction, without regard to the amount in controversy or the citizenship of the parties, to enforce such an effluent standard or limitation, or such an order, or to order the Administrator to perform such act or duty, as the case may be, and to apply any appropriate civil penalties under section 509(d) of this Act.

District court
jurisdiction.

"(b) No action may be commenced—

"(1) under subsection (a) (1) of this section—

"(A) prior to sixty days after the plaintiff has given notice of the alleged violation (i) to the Administrator, (ii) to the State in which the alleged violation occurs, and (iii) to any alleged violator of the standard, limitation, or order, or

Notice and
filing.

"(B) if the Administrator or State has commenced and is diligently prosecuting a civil or criminal action in a court

ENVIRONMENTAL ADVISORY BOARD

established in the Environmental Control Advisory Board, composed, who shall be Chairman, and President, none of whom shall be appointed members, having due regard shall be selected from among representatives, and local governmental agencies contributing to, affected by, or other public and private agencies having an active interest in the field of as well as other individuals who are

ed by the President shall hold office as (1) any member appointed to fill expiration of the term for which his or she appointed for the remainder of one of the members first taking office follows: three at the end of one year two years after such date, and three date, as designated by the President (i) the term of any member under

Q9. Mr. Train has repeatedly said he will never be able to control PCBs effectively without Toxic Substance Control Legislation.

What is Monsanto's reaction to this?

See new A9
A9. ~~We don't really understand his reasoning here. He has said~~
~~he would not ask Monsanto to stop production because it would~~
~~shut down the country. We assume this statement would apply~~
~~equally with or without a new Toxic Substance Law.~~
~~If he had imports (which we understand are being used in~~
~~"open applications") in mind,~~^{and}~~which according to figures released~~
~~by Rep. Lee Aspin (D-Wis.)~~^{Last December}~~are projected to b~~
~~as high as 385,000 pounds this year -- up 40 per cent since 1972,~~
~~Monsanto feels he has all the authority he needs under section~~
~~504 of the Federal Water Pollution Control Act.~~

Q10. What is Monsanto's position regarding Toxic Substance Control Legislation?

A10. Monsanto Company's corporate policy supports government actions whenever such actions are clearly in the public's best interest and are needed to protect human health and the environment. We recognize that there are certain gaps in existing regulatory controls, and that safeguards may be needed to fill those gaps. Consequently, we do not oppose enactment of reasonable legislation that would provide for the testing and regulation of chemical substances which present unreasonable risks. At the same time, we object emphatically to any prospective legislation that would impose broad, sweeping controls that overlap and duplicate existing laws.

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MONS 660140

Q11. Are your replacement products fire resistant? If not, won't this expose the public to some new hazards?

A11. Our replacement capacitor fluid candidate is far from the category of "flammable liquids," but it will burn more easily than PCBs. To give a familiar analogy, it has about the same flash point as the ethylene glycol used in automotive anti-freeze. We hope and expect that capacitor manufacturers can modify designs to minimize any potential fire hazard, but to some degree there will have to be a trade-off between maximum fire safety and environmental compatibility.

Q12. You stated that there is no accepted standard for fire-resistance for transformer fluids. What is Monsanto doing about it?

A12. We feel that the proper agency for establishing such a standard would be an underwriters group or the Bureau of Standards. EPA might be able to ^{help here by} focus the attention of appropriate government agencies on this problem *as well.*

Q13. Why is Monsanto introducing a replacement dielectric fluid before environmental and toxicological testing is complete?

A13. In a sense, that kind of testing is never really complete, because there are so many different kinds of tests, and some take several years to run. The data we have developed so far encourages us to believe that the new product is better than PCBs: that is - more biodegradable, not subject to biomagnification, relatively non-toxic - and this lends urgency to getting on with a replacement program.

Q14. Assuming the U.S. capacitor industry makes a successful and complete transition to a non-PCB alternative, what effect would this have on Monsanto U.S. production?

A.14. A successful changeover by the capacitor industry would effectively reduce Monsanto's total U.S. production of PCBs for all electrical uses (it currently averages about 40 million pounds) by some 16 million pounds per year. Another 13 million pounds of capacitor and transformer dielectrics is exported to other countries where we apply the same restricted sales policy used in the U.S. The remaining 11 million pounds of annual U.S. production is consumed by the domestic transformer industry.

Q15. I've been told that PCBs are used in some specialized National Defense applications (early warning radar sites and Polaris Submarines have been mentioned). ~~What effect would this have on the production of PCBs if they were no longer~~ How would these applications be affected if PCBs were no longer

available to them? If the alternates developed for capacitors and transformers do not work in the defense applications, would Monsanto continue supply PCBs for these special applications?

A-15