Monsanto

FROM (NAME & LOCATION): H. S. Bergen - B2SL

DATE: July 28, 1975

CC:

SUBJECT: PCB CONTINGENCY PLAN

REFERENCE: Your Memo July 1, 1975

TO: F. J. Fitzgerald - B3SA

PERSONAL & CONFIDENTIAL

Attached is our proposed worldwide PCB Contingency Plan based on the stated premise of a government ban with a 90-day phase-out period, assuming an October 1, 1976 ban effective 1/1/77.

Also attached is a proposed PCB Contingency Plan based on a case which the business group feels is possibly realistic considering present government attitudes and actions, customer responses and the "state of the art." This premise is a government ban announced 1/1/76 but with a compliance program and the ban to be effective 1/1/78.

We have had detailed inputs from Monsanto-Europe, as well as much detailed input from our business group personnel, our plants, plus Bill Papageorge and the Law Department.

In summary, we feel these two cases "bracket" the worst potential situation. In either case, certain actions are identical -- only the timing, odds of success and the financial impact on Monsanto are different. The two-year compliance case is on balance, in our opinion, the optimum for the U.S. government position, the total welfare of the population, the electrical utilities and other end users and the transformer and capacitor industry position and Monsanto's position.

We'll be glad to review this with you in detail if you desire. Please advise if these meet with your approval for the premises stated. There are other premises which can be evaluated should the occasion demand.

H. S. Bergen

/tl

Attachments

DSW 231801

STLCOPCB4053799

DISCUSSION OF CASE I

This case is the worst and most unlikely to occur for the following reasons:

1. Industry does not have thoroughly tested and approved replacement products for use in capacitors. At least 18 months more time is needed.

2. Industry does not have a fire-resistant liquid transformer fluid tested or approved. At least 2 years more time is needed.

3. The consumer would be exposed to dramatically different and inferior performance standards of capacitors and transformers which will affect his safety and energy costs and availability.

4. The U.S. government is leaning towards a three-year compliance program for the toxic pollutant products. Compliance may be possible in that time frame.

5. The alleged carcinogenic properties are not proven.

6. There will be law suits against the U.S. government.

7. The odds of success are the lowest from the standpoint of technical and commercial viewpoints.

This case is the worst economically for Monsanto and industry. There is very little chance of our successfully developing a transformer replacement product in this case. It would be difficut to successfully introduce non-PCB products to other world areas outside of Canada as long as those governments allowed PCBs to be used.

DSW 231802

CASE 1 - PCB CONTINGENCY PLAN - MAJOR STEPS - 7/28/75

PREMISE: U.S.A. government ban 10/1/75 effective 1/1/76. No imports allowed. U.K. government follows U.S.A. along with OECD member countries. Eighteen month time lag behind U.S.A. Imports allowed for 18 mos. Monsanto-Europe follows U.S.A. Monsanto timing. European competitors lag 18 mos.

*Most Critical Steps

	ACTION	WHO	WHEN	ODDS OF SUCCESS
I.	**COMPLIANCE WITH U.S.A. GOVERNMENT DIRECTION**			
	*1. Clarify exact conditions of ban with the U.S.A. government and industry.	W. B. Papageorge W. Easley, D. Wood	A.S.A.P.	80-90%
	*2. Monsanto submit plan for phase-out to government and CAC and formally announce intention to cease selling PCBs on 1/1/76.	H. S. Bergen F. J. Fitzgerald W. B. Papageorge P. R. Department	10/16/75	100%
	3. Determine need for worker surveillance by OSHA.	W. B. Papageorge Dr. G. Roush	10/16/75	100%
	4. From EPA, determine need for continued plant effluent surveillance.	W. B. Papageorge W. Easley D. B. Hosmer	10/16/75	100%
	5. Take action on any class action law suits or other law suits against the government and Monsanto.	Law Department	As need arises	100%
	*6. Present available toxicological and environmental data on replacement products to government.	W. B. Papageorge W. Easley, R&D, Medical Department	10/16/75	100%
II.	**CONCERN FOR CUSTOMERS**			
	*1. Appoint PCB task force to handle: (a) phase-out of PCBs, (b) introduction of replacement products.	H. S. Bergen F. J. Fitzgerald	A.S.A.P.	100%
	*2. Conduct USA salesmen's seminar with selected U.S. export Monsanto reps. invited (Europe/Latin America/ Australia/India/Far East).	T. L. Gossage, C.Paton D. Wood, R&D	10/15/75	100%
	*3. Notify customers of government ban, terminate any contracts and explain Monsanto plan.	T. L. Gossage, C.Paton D. Wood, Regional Managers, Salesmen	10/16/75	90-100%

DSW 231803

STLCOPCB405380

	ACTION	WHO	WHEN	ODDS OF SUCCESS
#4.	Hold industry dielectric meeting in St. Louis to answer immediate customer questions and explain production plans of replacement products.	Marketing, R&D and Manufacturing	11/1/75	90-100%
#5.	Visit each customer individually to establish preliminary non-PCB fluid forecast and technical programs as well as PCB requirements during phase-out period.	Marketing and Task Force	11/8/75	80-100%
6.	If requested by customers, prepare P.R. statement for PCB ultimate users; i.e., utilities, transformer "top up," etc.	Chairman of Task Force and P.R.	11/25/75	80-100%
#7.	Determine non-PCB market forecast. Announce Monsanto intention to proceed to interim production of MCS 1238 effective 2/1/76 and also Monsanto commitment to a new plant to come onstream in 18 months to 2 years.	Marketing and P.R. Department	1/1/76	40%
#8.	Establish shipping and production plan and allocation if necessary of PCB fluids as well as announcing warehouse and incineration and return goods policies.	Marketing Task Force	10/14/75	80-100%
#9.	Establish allocation of replacement fluids with customers.	Marketing Task Force	12/15/75	40%
10.	With industry, develop suitable standards -- ASTM, EIA, Cigre, OED, etc.	Marketing/R&D	1/1/76 and Continuing	50%
III.	CONTINUITY & ECONOMICS OF OUR CONTINUING BUSINESS			
1.	See attached Table I for economic impact.			
#2.	Submit AR for non-PCB dielectric plant and Santosol 200 plant to CAC.	H. S. Bergen F. J. Fitzgerald H. H. Bible	2/15/76	100%
IV.	INTERNAL MONSANTO ACTIONS			
#1.	Present Monsanto phase-out plan to CAC and gain approval.	H. S. Bergen F. J. Fitzgerald H. H. Bible	10/13/75	100%
#2.	Gain approval for PIR for non-PCB Santosol 200 plant.	Same	10/13/75	90-100%

DSW 231804

STLCOPCB405380

	ACTION	WHO	WHEN	ODDS OF SUCCESS
A.	Marketing Related			
1.	Obtain all needed new product information presentable in a commercial form. (This includes toxicity data and product acceptability data on MCS 1238 and 1538, finished goods, manufacturing specifications, storage stability tests and product application testing to date.)	R&D, Medical Product Accept. Manufacturing	9/15/75	10-20%
2.	No transformer replacement product is available.	No action by Marketing. R&D continue to define and develop product.		10%
B.	Manufacturing Related			
1.	Inform Purchasing Department and other Monsanto business groups of change of raw material requirements and,most importantly, obtain sufficient allocation of toluene sulfonyl chloride from Plasticizers Division to give us 1.5 $\overline{M}$ lb/yr rate. (The following raw material will decline in usage: benzene and chlorine and trichlorobenzene. The following products will increase in usage, at least temporarily: toluene sulfonyl chloride. When Aroclor is shut down, a shortage of chlorosulfonic acid will result which is used to make toluene sulfonyl chloride and other products. There must be an agreed on allocation plan. Another alternative solution would be an inventory build-up in penta. The effect of chlorine cell house operation needs to be studied.)	H. S. Bergen F. J. Fitzgerald S. A. Heininger G. L. Bratsch J. R. Savage Purchasing Department	A.S.A.P.	70-80%
2.	Set up manufacturing phase-out plan for PCBs.	J. R. Savage	A.S.A.P.	100%
	Develop manufacturing plan schedule for non-PCB with outside converter. (Milliken Chemical/ Anderson Development).	J. R. Savage		80-90%
	Production to start as soon as possible and be up to 160M pounds per month TXS by 2/1/76.	J. R. Savage/ Outside Converter	2/1/76	60-70%
3.	Plant decommissioning, decontamination of equipment site and tank cars and plant dismantling.	J. R. Savage/ Flint/Leisy	Begin 1/1/76	100%

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	ACTION	WHO	WHEN	ODDS OF SUCCESS
	#4. Start-up of new non-PCB Santosol 200 plant.	J. R. Savage Manufacturing Dept.	9/77	80-90%
C.	Accounting Related			
	#1. Establish reserves for plant write-off and plant dismantling and anticipated incineration reserve and any other anticipated needs.	A. J. Koenig L. B. Skatoff	12/1/76	100%
	#2. Administrative reassignment of any redundant personnel.	H. S. Bergen F. J. Fitzgerald C. A. Sweets G. L. Bratsch	10/1/76	100%

DSW 231806

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*Most Critical Steps

TABLE I

SPECIALTY PRODUCTS

PCB DIELECTRIC BAN 90 DAYS FOLLOWING 10/1/75

PHASE-OUT COSTS & WRITEOFFS - TAKE IN 1975

		$M	$M
I.	Fixed Investment Write-off and Dismantling		
	Krummrich Plant	1410	
	Newport Plant	690	2100
II.	Decontamination and Reassignment 44 PCB TC's		400
III.	Decontamination - Newport		150
	TOTAL		2650
IV.	Plant FIE Redistributed to Rest of Plant		
	Krummrich 300		
	Newport 100		400
V.	Task Force to Phase-Out PCB Dielectrics		
	Domestic & U.S. Export	150	
	Ex. USA	75	225

/tl
7/28/75

DSW 231807

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DISCUSSION OF CASE II

This case, which represents another "worse case" type situation, is more apt to occur and other related variations of it are more likely to occur for the following reasons:

1. The USA government wants a toxic substances law that is workable and accepted by Congress, the population and industry. An outright PCB ban, with severe time parameters - which create other risks to society, is not conducive to positive legislative steps. Many court cases will result. The U.S. government is more apt to go along with any one or a combination of the following:

   a) a ban to be effective in a long enough time frame to permit industry to change over to something else with less total risk;

   b) a ban on certain PCBs -- like 1254 and higher homologues -- but allow continued production and use of MCS 1043 and 1016 which are considerably more biodegradable and which do not accumulate in body fat to the extent of higher homologues;

   c) a "controlled" and monitored production and use of certain PCBs -- with effluent standards tightly controlled.

2. There are too many other alleged carcinogens with greater production and distribution for the U.S. government to single out PCBs.

STLCOPCB4053806

3. Monsanto and industry will propose to the U.S. government -- prior to a "total" ban on PCBs -- various programs which will dramatically reduce production and use of the higher homologue (less biodegradable) PCBs with only minimum risk from all other aspects. This case would entail Monsanto offering only Aroclors 1016 and 1043 for transformers and capacitors and reducing the production of the "non-biodegradable" 1254 by 10-12 $\overline{M}$ pounds/year. There are certain other risks here but these possibly could be resolved with only slightly higher costs and fire safety risks.

4. The total industry is more apt to accept it because it gives the time necessary for an "all-out" emergency changeover situation. The industry really wants three years -- but could live with two. The industry is not prepared for a 90-day ban.

5. The odds of success are considerably better than Case 1.

This case imposes a "tight" but more possible time frame for Monsanto and industry. It represents considerably better economics to Monsanto and gives us a 50% chance of developing a transformer replacement product. It would be easier to introduce and gain acceptance of non-PCB products in other world areas.

DSW 231809

7/28/75

CASE II - PCB CONTINGENCY PLAN - MAJOR STEPS - 7/28/75

PREMISE: U.S.A. government ban 1/1/76 with a compliance program and the ban to be effective 1/1/78. No imports allowed. U.K. government follows U.S.A. along with OECD member countries. Zero to six months time lag behind U.S.A. Monsanto-Europe follows U.S.A. timing. European competitors follow OECD compliance. Maximum six months lag.

*Most Critical Steps

	ACTION	WHO	WHEN	ODDS OF SUCCESS
I.	**COMPLIANCE WITH U.S.A. GOVERNMENT DIRECTION**			
*1.	Clarify exact conditions of ban with U.S.A. government and industry.	W. B. Papageorge W. Easley/D. Wood	A.S.A.P.	80-90%
*2.	Monsanto submit plan for phase-out to government and CAC and formally announce intention to cease selling PCBs on 1/1/78.	H. S. Bergen F. J. Fitzgerald Public Relations Dept. W. B. Papageorge	1/15/76	100%
3.	Determine need for worker surveillance by OSHA.	W. B. Papageorge Dr. G. Roush	1/15/76	100%
4.	From EPA, determine need for continued plant effluent surveillance.	W. B. Papageorge W. Easley	1/15/76	100%
5.	Take action on any class action law suits or other suits against the government and Monsanto.	D. B. Hosmer Law Department	As need arises	100%
*6.	Present available toxicological and environmental data on replacement products to government.	W. B. Papageorge W. Easley Medical Department R&D	1/15/76 and continuing as data develops until completed. on 8/77.	100%
II.	**CONCERN FOR CUSTOMERS**			
*1.	Conduct USA salesmen's seminar with selected U.S. export Monsanto reps. invited (Europe /Latin America/ Australia/India/Far East).	T. L. Gossage C. Paton, D. Wood R&D	1/7/76	100%
*2.	Notify customers of government ban, terminate any contracts and explain Monsanto plan.	T. L. Gossage C. Paton, D. Wood Regional Managers Salesmen	1/15/76	100%

DSW 231810

STLCOPCB4053808

	ACTION	WHO	WHEN	ODDS OF SUCCESS
#3.	Hold industry dielectric meeting in St. Louis to answer immediate customer questions and explain production plans of replacement products.	Marketing, R&D Manufacturing.	1/30/76	100%
#4.	Visit each customer individually to establish preliminary non-PCB fluid forecast and technical programs as well as PCB requirements during phase-out period.	Marketing	2/15/76	90-100%
5.	If requested by customers, prepare P.R. statement for PCB ultimate users; i.e., utilities, transformer "top up," etc.	D. Wood P.R. Department	6/1/76	100%
#6.	Determine non-PCB market forecast. Formally announce Monsanto plant start-up of new non-PCB dielectric plant.	Marketing P.R. Department	10/1/77	80-90%
#7.	Establish shipping and production plan and allocation if necessary of PCB fluids as well as announcing warehouse and incineration and return goods policies.	Marketing Distribution	6/1/77	100%
8.	With industry, develop suitable standards - ASTM, EIA, Cigre, OED, etc.	Marketing/R&D	3/1/76 and Continuing	70-80%
III.	CONTINUITY & ECONOMICS OF OUR CONTINUING BUSINESS			
1.	See attached Table II for economic impact.			
#2.	Submit AR for non-PCB dielectric plant and Santosol 200 plant to CAC.	H. S. Bergen F. J. Fitzgerald H. H. Bible	2/15/76	100%
IV.	INTERNAL MONSANTO ACTIONS			
#1.	Present Monsanto phase-out plan to CAC and gain approval.	H. S. Bergen F. J. Fitzgerald H. H. Bible	1/15/76	100%
#2.	Gain approval for PIR for non-PCB Santosol 200 plant.	Same	1/15/76	90-100%
A.	Marketing Related			
#1.	Obtain all needed new product information presentable in a commercial form. (This	R&D, Medical Product Accept. Manufacturing	12/24/75	75%

DSW 231811

STLCOPCB4053809

ACTION	WHO	WHEN	ODDS OF SUCCESS
includes toxicity data and product acceptability data on MCS 1238 and 1538, finished goods, manufacturing specifications, storage stability tests and product application testing to date.)			
#2. R&D program on replacement transformer fluids accelerated with candidates identified, pilot plant quantities made and customer trials made. Replacement candidate, manufacturing plan developed and interim manufacturing plant established. All completed by 12/31/77.	R&D/Manufacturing Medical/Marketing	Start A.S.A.P. 12/31/77	50%
B. Manufacturing Related			
#1. Inform Purchasing Department and other Monsanto business groups of change of raw material requirements and, most importantly, obtain sufficient allocation of toluene sulfonyl chloride from Plasticizers Division to tide us over critical period of April or May, 1976. (The following raw material will decline in usage: benzene and chlorine and trichlorobenzene, but not as rapidly as in the Case I. The following products will increase in usage at least temporarily: toluene sulfonyl chloride.)	H. S. Bergen F. J. Fitzgerald S. A. Heininger G. L. Bratsch J. R. Savage Purchasing Department	A.S.A.P.	90-100%
#2. Set up manufacture phase-out plan for PCBs. Develop manufacturing plan schedule for non-PCB with outside converter (Milliken Chem/Anderson Development). Production to start as soon as possible with rates to be based on customer needs.	J. R. Savage	A.S.A.P. 5/15/76	100%
#3. Plant decommissioning, decontamination of equipment, site and tank cars and plant dismantling.	Manufacturing Distribution	1/1/78	100%
#4. Start-up of new non-PCB Santosol 200 plant.	Manufacturing	9/77	80-90%
C. Accounting Related			
#1. Establish reserves for plant write-offs and plant dismantling and anticipated incineration reserve and any other anticipated needs.	A. J. Koenig L. B. Skatoff	12/1/77	100%

DSW 231812

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ACTION	WHO	WHEN	ODDS OF SUCCESS
*2. Administrative reassignment of any redundant personnel.	H. S. Bergen F. J. Fitzgerald C. A. Sweets G. L. Bratsch	1/1/78	100%

DSW 231813

STLCOPCB405381

*Major Critical Steps.

TABLE II

SPECIALTY PRODUCTS

PHASE-OUT COSTS & WRITEOFFS - TAKE IN 1977

		$M	$M
I.	Fixed Investment Write-off and Dismantling		
	Krummrich Plant	850	
	Newport Plant	600	1450
II.	Decontamination and Phase-out Dom. Tank Cars		360
III.	Decontamination - Newport		150
	Total		1960
IV.	Plant FIE Redistributed to Rest of Plant		
	Krummrich 330		
	Newport 125		455
V.	Task Force to Phase-out PCB Dielectrics		
	Domestic and Export	150	
	Ex. USA	75	225

/tl
7/28/75

DSW 231814

STLCOPCB4053812

Monsanto

FROM (NAME & LOCATION) : H. S. Bergen - B2SL

DATE : July 17, 1975

SUBJECT : PCBs

REFERENCE : Your memo 7/8/75

TO : F. J. Fitzgerald - B3SA

CC: G. L. Bratsch - B3NA
D. L. Eby - A3NA
J. T. Garrett - A2SA
T. L. Gossage
G. J. Levinskas - A2SC
W. B. Papageorge
R. G. Potter - B3SA
G. Roush - A2SA
K. W. Easley - 1920

PERSONAL & CONFIDENTIAL

Attached is the timetable based on actions discussed at the meeting of July 8 on PCBs. This program has been agreed upon by all those taking action.

We will plan to follow up on each of these actions on the due dates indicated. We recognize that further information may modify some of the steps or actions but these will be acknowledged and future actions agreed upon.

H. S. Bergen

HSB/tl

Attachment

DSW 231815

STLCOPCB4053813

July 17, 1975

DSW 231816

PCB ACTION PLAN RELATIVE TO EPIDEMIOLOGICAL & FEEDING STUDIES

	ACTION	RESPONSIBILITY	TARGETED COMPLETION DATE
1.	Complete WGK plant employee exposure study.	G. Roush/G. L. Bratsch	Status Report by Aug. 1, 1975
2.	Review epidemiological results with Dr. Shubik.	G. Roush/F. Johannsen	Dependent on Item 1.
3.	Review employee exposure conditions and prepare exposure guidelines.	J. T. Garrett/W. B. Papageorge	Aug. 18, 1975
4.	Implement new employee exposure guidelines.	G. L. Bratsch	Sept. 15, 1975
5.	Prepare Monsanto Statement:		Aug. 20, 1975
	a) Toxicity	G. J. Levinskas	July 25, 1975
	b) Epidemiological study results	G. Roush	Dependent on Item 1.
	c) Marketing policy	T. L. Gossage/W. B. Papageorge	Aug. 19, 1975
	d) Environmental presence	W. B. Papageorge/D. Eby	July 25, 1975
6.	Publish results of the Monsanto studies conducted by Industrial Bio-Test Labs.	G. J. Levinskas	Approved drafts September 1, 1975 Publication - Jan. 1, 1976
7.	Discuss with government representatives (NCI, NIOSH, FDA, EPA, CEQ).	G. Roush K. W. Easley W. B. Papageorge	Sept. 7, 1975
8.	Discuss with key customers.	G. Roush/G. J. Levinskas T. L. Gossage W. B. Papageorge	Sept. 1, 1975
9.	Inform remaining customers.	T. L. Gossage/C. Paton	Sept. 15, 1975
10.	Feedback of government reaction to customers (as needed).	T. L. Gossage/C. Paton	Sept. 15, 1975

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