

From the desk of

HOWARD S. BERGEN

7/23/75

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*More Background
on PCB Contingency Plan*

MONS 058529

PCB CONTINGENCY PLAN

July 22, 1975

ASSUME:

- Case I - Government ban effective 1/1/76. *clock starts 10/1/76.*
- Case II - Government compliance plan with effective ban 1/1/78.

FINANCIAL CASES - PREMISES:

1. Monsanto non-PCB products will be acceptable (favor 1238).
2. Monsanto non-PCBs - not acceptable.

MONS 058530

PCB CONTINGENCY PLAN

Plan to Consider

HSB - 1. Compliance with government direction.

- Monsanto acknowledge plan to government and submit *10/18/75* plan for phase out.
- Need for continuing worker surveillance. (NIOSH demand) *ASAP after request*
- Continued plant effluent surveillance. *- If requested, ASAP.*

TLG - 2. Concern for Customers.

- Notify customers of government ban/handling contract customers.
- Monsanto plans to help you.
- Supply allocation product plan.
- Incineration plan - return goods policy.
- Status and price availability of Monsanto non-PCB for ongoing conversion program.
- Our customers' customers.
- Transformer top-up plan.
- Outside standards - ASTM, OECD, EIA, CIGRE selling product acceptability of new products and getting data for product acceptance and monitoring of new product effluent.

3. Continuity & Economics of our Continuing business.

- Premise case.
- Risk case.

7/22/75

MONS 058531

PCB CONTINGENCY PLAN

Other Factors to Consider

HSB - 1. Outsider reaction.

- Law suits. *Low right of recovery as needed & when needed.*
- PR releases, etc. - *10/6/75 - PR Dept.*

WRR - 2. Replacement product hazards.

- Toxicity.
- Biodegradation.
- Carcinogen.
- Functionality, life, reliability, safety - Underwriter's Lab/CPSC.
- "Implied warranty" of use - must be stated carefully.

AJK - 3. Reserves for Write-offs.

JRS - 4. HCL supply CS - effect on chlorine cell house operation.

TLG - 5. Ex-USA market - U.S. export)

TLG - 6. Task Force to implement.

JRS - 7. Hardware and plant site and tank car decontamination.

JRS - 8. Plant dismantling.

TLG - 9. Returning/disposition of warehouse stocks - worldwide basis.

JRS - 10. Effect on raw material suppliers.

HSB - 11. Reassignment of personnel - Mkt/Res/Pit.

TLG - 12. Other co-supplier (paper/TCB, etc. to electrical industry).
Hooker.

MONS 050532

7/22/75

SPECIALTY PRODUCTS BUSINESS GROUP
POLYPHENOL CHAIN OF PRODUCTS
EX. REP. DIELECTRICS

		<u>1976</u>	<u>1977</u>	<u>1979</u>	<u>1984</u>
<u>DOMESTIC AND EXPORT</u>					
<u>REPORTING PERIOD</u>					
SALES VOLUME		66926	66640	65400	88720
✓ DOLLARS		29411	31334	32159	43161
GROSS PROFIT		11350	13638	14370	18423
%		38.6	43.1	44.6	47.7
<u>EX-REP DIELECTRICS 1/1/76</u>					
SALES VOLUME		27887	32690	35350	63570
✓ DOLLARS		12817	15595	17588	30077
GROSS PROFIT		1547	3186	4251	71147
%		12.1	20.4	24.1	23.8
<u>EX-REP DIELECTRICS 1/1/76</u>					
<u>TWIS MCS 12DB</u>					
SALES VOLUME		32887	39890	43850	69070
✓ DOLLARS		16047	20665	23117	33652
GROSS PROFIT		2586	4115	7242	8954
%		16.1	19.9	31.3	26.6
<u>CASE II</u>					
<u>EX-REP DIELECTRICS 1/1/78</u>					
SALES VOLUME		59387	49890	48050	76420
✓ DOLLARS		26542	28432	25843	39477
GROSS PROFIT		8724	9360	8638	11135
%		32.9	32.3	33.4	28.9
Δ	1	8764	9523	7128	9469
	2	2626	4278	5732	7288

Summary Products Business Center

Productive Capital on Product

Column	Current Business			Ex-Old Direct-PCS		Ex-PCS's Unit 1957-1958		Case II	
	Volume	Dollars	Gross Profit	Gross Prof-	A	Gross Prof-	A	Gross Profit	
	1984	Bits							
1	Diectronics	25,500 520	12084	6848	10-	6848-	10-	6848-	
2	SALTZMAN	100 450	65	43	32	5-	39	4-	
3	Bipresent	3920 300	1490	718	509	209	584	164-	
4	Santosol 300	7900 300	4874	1169	812	357-	857	262-	
5	46-40	4000 265	1460	360	224	33-	269	291-	
6	OS-64	250 100	156	97	76	21-	80	17-	
7	Therminal 60	10200 30	7313	4214	3968	850-	4280	744-	
8	Santosol 300	28100 30	4973	2753	896	2357-	707	2040-	
9	300	21200 30	990	323	170	163-	195	128-	
10	Therminal V.P.	8950 30	3332	881	797	84-	815	66-	
11	Santosol 300	900 40	703	138	140	48-	150	38-	
12	Therminal 30	50 1000	20	19	17	2-	17	2-	
13	MCS 1508								
14	MCS 1238	51000	21575				11611		
15									
16									
17									
18									
19	TOTALS		431161	18423 427	7147 235	11270-			
20	EX-PCS		300777						
21	UNIT 100		23657				8954 260	10630-	
22									
23									
24									
25	Case II								
26	Total		38077					11135 249	
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MONS 058534

Summary Report Business Case

Business Case of Project

Ex-P&B

Column	Current Business			Ex-P&B Direct Costs		Ex-P&B Indirect Costs		Case II	
	1976	Volume	Dollars	Gross Profit	Gross Profit	Gross Profit	Gross Profit	Gross Profit	Gross Profit
1	Director's	29039	81	16994	6212	100	6212	4503	1503
2	SAINTMAN	40	650	26	17	12	13	4	16
3	Biphenyl	1541	80	584	282	103	179	145	254
4	SANTOSOL 200	2200	47	1357	325	107	218	150	295
5	10-40	1300	24	657	252	2	294	36	178
6	OS-84	260	69	161	101	65	30	64	91
7	Thermalol 60	4941	87	3543	2337	1140	1771	1743	2131
8	SANTOSOL 340	14820	36	5261	1452	602	2090	323	854
9	10-200								
10	Thermalol VR-1	1810	60	1014	248	242	51	223	260
11	SANTOSOL 360	1459	40	197	94	44	53	52	81
12	Thermalol 38	75	60	15	10	7	8	2	
13	MCS 1588	2500	60	1609			473		
14	MCS 1238	2500	60	1609			5		7
15									
16									
17									
18	TOTALS		29441	11350					
19	Ex-P&B		112817		1547	9803			
20	Costs 1238		110067				2586	9242	
21									
22									
23	CASE II		26542					8724	3.9
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MONS 05855

4. 1994	1994	1994
4. 1994	1994	1994
4. 1994	1994	1994

[illegible]

Prepared By	Approved By

Secondary Products Business Center
Proposed Change in Procedure

1979	Current Business		EX-PLS DIRECTORIES		EX-PLS WITH 1978-1979		CASE -
	Volume	Dollars	Gross Profit	Gross Profit	Gross Profit	Gross Profit	Gross Profit
	BUS			A	A	A	
1 DIRECTORIES	30250	54	14571	7135	0-	7135-	7135-
2 SANDHAW	20	160	52	35	29	6-	5-
3 BIPACNYL	2420	380	920	443	261	182	316
4 SANTOSOL 200	2200	101	2345	563	319	244-	302
5 W-40	2800	65	1022	312	102	290-	160
6 OS-84	250	101	1155	97	71	20-	77
7 THERMINOL 60	7100	71	5091	3359	2624	735-	2787
8 SANTOSOL 340	11800	55	4137	1154	67-	1222-	204
9 JOL	11500	50	1275	220	84	134	121
10 THERMINOL VR-1	4850	50	2116	718	621	97-	650
11 SANTOSOL 300	700	101	393	233	190	43-	196
12 THERMINOL 88	50	100	30	19	15	4-	16
13 M.S. 150B							
14 M.S. 123B	8500		14110			2287	
15							
16							
17							
18 TOTAL		37159	14710	446			
19	EX-PLS	17568		4251	244	10119-	
20 WITH 123B		23113				7242	9415-
21			12700				
22		8255					
23 TOTAL		25543					8038 314
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MONS 058537

al-

RCB

C/SC II

7/25/75

Please adjust
Numbers for the following.

DOMESTIC

76

77

78

80

85

TRANSPORT

At the POC

9.0

6.0

mon/CR

0

.5

2.5

3.0

4.0

Operation

At the POC

15.0

10.0

mon/CR

1.5

5.0

2.0

9.0

6.0

EXPORT

TRANSPORT

At the POC

3.5

2.0

mon/CR

.1

.5

.7

1.0

CAPACITOR

At the POC

2.5

1.5

mon/CR

.5

.7

1.0

1.0

11.7

77.700

11.7

12.50

84

11.0

Bigland

13012

7806

MRS

1148

4666

8950

9715

10480

9830

9.80

77 July

MONS 058538

PCB CONTINGENCY PLAN

7/23/75

CRITICAL ASSUMPTIONS

1. Oct. 1, 1975, U. S. Government ban the manufacture, importation and use of PCB effective January 1, 1976 with further appeal precluded.
2. TXS is available at 80 M lbs. per month rate within 2 weeks TXS toll production at 150-200 M lbs. per month can be brought on stream by March 1, 1976.
3. Adequate toxicological data has been generated by Oct. 1, 1975, to support full scale use of MCS 1588 or MCS 1238
4. We differentially price 1238 to favor its use vs. 1588 or state that 1588 will only be available for a limited 6 month period.
5. End use qualifications of MCS 1238 capacitor designs can be finalized within 6 months.
6. Overseas suppliers Bayer/Prodelec will continue to produce for 3-5 years.
7. Blending equipment installed prior to Oct. 1, 1976 (\$25M).

Use 65% instead of 55%
A+B
55%
55%
55%

FORECAST SALES OF MONSANTO PCB REPLACEMENTS

A. Domestic Capacitor Industry	M Lbs. / \$M (Includes Canada)					
	37% 1975	47% 1976	47% 1977	47% 1978	47% 1979	47% 1980
	76	77	78	79	80	85

(55%/lb.)						
MCS 1588	2.5/\$1.875					
MCS 1238	2.5/\$1.375	7.8/4.39	8.5/4.67	8.5/4.57	7.5/4.12	5.5/3.02
Total	5.0/2.750	7.8/4.39	8.5/4.67	8.5/2.67	7.5/4.12	5.5/3.02
	1975	59.7	60.2			

This represents 37% of market in 1976, approx. 47% by 1980.

LTM AM/MENCO/AUSTRAUM/FAR EAST styren PC

B. Export Capacitors

	76	77	78	79	80	85
	0/0	0/0	0/0	2/1.1	1 0/55	2.0/1.1

Transformer Fluids

We will not have capability to supply a replacement fluid before 1977/78 at earliest. Given assumption 1, it would be unrealistic to forecast any sale in this sector.

MONS 058539

Industry will pressure (if allowed) thru its capacity for 70 days building machines, reducing capacitor inventory sales to 1976 levels to 9.1M lbs. equivalent from PCB at 37% 1975 would reduce fluid sales to 3.5 M lbs. assume all rice 1238

Long term 20-25% MI

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145
13,200

MONS 058540

SPECIALTY PRODUCTS
PCB Dielectrics Can be dismantled & Re-used
90 Days following 10/1/75
 and I

<u>I. FIXED INVESTMENT WRITE-OFF AND DISMANTLING</u>		
	\$M	\$M
KRUMMACH PLANT	1410	
NEWPORT PLANT	690	2100
<u>II. DECONTAMINATION AND RE-ASSIGNMENT 44 PCB TC's</u>		
		400
<u>III. DECONTAMINATION - NEWPORT</u>		
		150
<u>TOTAL</u>		2650

<u>IV. PLANT FIE RE-DISTRIBUTED TO REST OF PLANT</u>		
KRUMMACH	300	
NEWPORT	100	400

V. BUSINESS GROUP LOSS OF GROSS PROFIT

	DOM + USEX	EX USA	WW
1976	8765	1250	10015
1977	9525	1190	10715
1979	7130	1250	8380
1984	9470	1340	10810

VI. \$100M MAT (RESEARCH & MARKETING) WILL BE RE-ASSIGNED FROM REST OF BUSINESS GROUP TO MAKE TRANSITION FROM PCB TO NON-PCB DIELECTRICS

VII. TASK FORCE TO PHASE OUT PCB DIELECTRICS

DOMESTIC + USERPORT	150	
EX USA	75	225

MONS 058541

~~ENVIRONMENTAL PROJECTS~~
PCB DIELECTRIC BURN FOR SCIENTIFIC REASONS
 Goal II - 2 YEAR PHASE-OUT 11/79

I FIXED INVESTMENT WRITE-OFF AND DISMANTLING

	\$M	\$M
KRUMMIRCH PLANT	850	
NEWPORT PLANT	600	1450

II DECONTAMINATION AND PHASE OUT DOM TANK CARS 360

III DECONTAMINATION - NEWPORT 150

TOTAL 1960

IV PLANT FIE RE-DISTRIBUTED TO REST OF PLANT

KRUMMIRCH	330	
NEWPORT	125	455

V BUSINESS GROUP LOSS OF GROSS PROFIT

	DOM	EXUSA	WW
1976	USEX		
1976	2626	250	2876
1977	4278	350	4628
1978	5732	1165	6897
1984	7288	1346	8634

VI TASK FORCE TO PHASE OUT PCB DIELECTRICS

DOMESTIC AND EXPORT	150	
EXUSA	75	225

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 in the capacitor industry. 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 difficult to successfully introduce non-PCB products to other world areas outside of Canada as long as those governments allowed PCBs to be used.

MCNS 058543

DISCUSSION OF CASE 11

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 parameter which create other risks to society are 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 1242 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.

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 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.

MONS 058545