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For

UNION CARBIDE INTERNAL CORRESPONDENCE

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File
Subject

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To (Name) D. F. Kapral
Division UCC - Metals Division
Location Niagara Falls, NY 14032

Date September 21, 1983

Originating Dept. TECHNOLOGY - Product Development

Answering letter date

Copy to G. L. Dickson
R. J. Klotzbach
J. L. Myers

Subject 0.5 fiber/cc TWA Impact

The following is a list of customers for which we have asbestos emission data and an estimate of the loss of business we may experience in the event the allowable TWA fiber/cc of air limit goes from 2.0 - 0.5. This compilation shows that a 30% reduction may occur. The listing outlines only current customers for which we have performed dust counts but they represent approximately 65% of the total tons sold in 1982.

The table gives a range of the highest and lowest sample collected and an estimated TWA based upon multiple dust counts. An impression, in the form of a risk factor, indicating the degree to which the customer is able or willing to meet the 0.5 standard is also given. This risk factor is a rating value and may be seen as a combination of prior knowledge of the customer and the estimated TWA. Finally, the resultant loss in sales is given as the product of 1982 volume and the weighted risk factor.

F. L. Smith

FLS/jl

Attach.

File I-5

GMC
JTK

Sent 10/12

To what extent is this reflected in 1984 budget?

PLAINTIFF'S EXHIBIT
UC-1348

TABLE HEADING EXPLANATION

1) Lowest and highest individual sample counts obtained on personnel during tests.

2) Estimated personnel 8 hour TWA based on information available. This value encompasses all personnel monitored for any single product application. If asbestos was used in more than one product requiring different processes than each process was assigned an estimated TWA and risk value.

3) Risk factor was based on a rating of zero to three; zero being no risk at 0.5 fibers/cc TWA, and three a high risk with regards to business loss. Catagories of assigned risk were weighted primarily on the basis of the estimated TWA as shown below: However, factors such as the customer's ability to comply with the proposed 0.5 F/cc standard based on economic implications, type of operation and other cognizant factors were also taken into consideration.

Risk Factor (Rating Value)	Est. TWA Fibers/cc
0	0 - 0.5
1	0.5 - 1.0
2	1.0 - 2.0
3	2.0 +

4) Estimated loss of business was based on the assigned risk values as follows:

Risk Value	Estimated Business Loss @ 0.5 F/cc TWA (Pounds X 10^{-3})
0	none
1	.33 x 1982 volume
2	.66 x 1982 volume
3	1.00 x 1982 volume

BLI/9/12/83

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA (2) Fibers/cc	Risk Factor (3)	Estimated Business Loss (4) at 0.5 fibers/cc TWA (Pounds $\times 10^{-3}$)
Automotive Chemicals Detroit, Michigan	RG-244	16.8	2 (1979-82)	< 0.1 - 1.2	< 0.5	0	0
Arco, Lowell, MA	RG-244	10.8	1 (1972)	0.8	< 0.5	0	0
Biddle, St. Louis, MO	RG-244		1 (1978)	0.2 - 0.6	< 0.5	0	0
Carboline, Hayward, California	HPO	-	2 (1977-79)	(0.2 - 31.5) (2)	< 0.5	0	0
Xenia, Ohio	RG-244	2.0	1 (1977)	(< 0.1 - 0.8)	< 1.0	0	0
" "	HPO	12.0	-			0	0
" "	SG-130	30.0	-			0	0
Freemont, California	HP	4.7	-			0	0

(2) 1977 Tests were high. New Dust collector installed shortly afterward. 1979 tests demonstrated personnel TWA 0.5

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA (2) Fibers/cc	Risk Factor (3)	Estimated (4) Business Loss at 0.5 fibers/cc TWA (Pounds $\times 10^{-3}$)
Adcoat Inc. Placentia, California	RG-244	27.2	1 (1977)	0.1	< 0.5	0	0
Adhesives Engineering San Carlos, California	RG-144	8.18	1 (1973)	0.3 -2.4	< 1.0	1	2.7
Ameron, Little Rock, Arkansas	RG-244	2.0	2 (1981-82)	< 0.1 - 0.1	< 0.5	0	0
	RG-110	18.2	1 (1982)	< 0.1 - 0.2	< 0.5	0	0
Arrow Mfg., Houston, TX	HPO	1.8	1 (1979)	0.1 - 3.7	0.5	1	0.6
Ashpalt Products, Berekley, California	HPO	81.9	1 (1980) (1)	0.1 - 11.9	>2.0	3	81.9
Long Beach, California	-	-	1 (1980) (1)	0.1 - 0.4	< 0.5	0	-
Austin Plastering Houston, Texas	HPO	3.2	1 (1981)	< 0.1 - 0.1	< 0.5	0	0

(1) Conducted on Canadian JM 7M-05 or JM S-7 asbestos only.

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds (X 10^{-3})	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA (2) Fibers/cc	Risk Factor (3)	Estimated Business Loss (4) at 0.5 fibers/cc TWA (Pounds X 10^{-3})
Ceilcote, Berea, Ohio	RG-244	17.2	1 (1979)	(0.2 - 0.5)	<0.5	0	0
Century Plastics Compton, CA	RG-244	1.2	1 (1976)	0.4	<0.5	0	0
Chemtrex El Paso, Texas	RG-144	4.2	1 (1982)	(0.1 - 2.9)	<0.5	0	0
" " "	RG-244	0.4	-	-	-	0	0
Contech Minneapolis, MN	HPQ	25.1	1 (1979) (3)	(0.3 - 1.6)		1	8.3
	RG-144	2.8				0	0
	RG-244	0.4				0	0
Colonial Rubber Dyersburg, TN	RG-100	810.0	4 (1978,79,80, 83)	(<0.1 - 1.8)	<0.5	0	0

(3) Canadian 7RF02 Monitored only (No Calidria products in use at this time)

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA Fibers/cc (2)	Risk Factor (3)	Estimated Business Loss at 0.5 fibers/cc TW (Pounds $\times 10^{-3}$) (4)
Dolphin Chemical Toledo, Ohio	RG-144	2.8	1 (1980)	(< 0.1 - 1.5)	< 0.5	0	0
Durable Coatings	RG-144	1.4	2 (1979)	(< 0.1 - 6.2)	< 0.5	0	0
Cleveland, Ohio	HPO	1.6				0	0
Epoxylite, Anaheim, California	RG-244	1.2	3 (1976&83)	(< 0.1 - 1.0)	< 0.5	0	0
Columbus, Ohio	RG-244	1.2	1 (1976)	(0.3 - 0.7)	< 0.5	0	0
Fox Industries Baltimore, MD	RG-244	2.4	1 (1983)	(0.1 - 0.6)	<0.5	0	0
Futura Coatings St. Louis, MO	RG-244	8.0	1 (1982)	(< 0.1 - 0.2)	< 0.5	0	0
Garland	HPO	6.3	2 (1978)	(< 0.1 - 5.1)	1.5	2	4.2
Cleveland, Ohio	RG-244	5.2	-	-	-	2	3.4

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA (2) Fibers/cc	Risk Factor (3)	Estimated (4) Business Loss at 0.5 fibers/cc TWA (Pounds $\times 10^{-3}$)
Gavlon Industries Austin, Texas	RG-244	3.2	1 (1982)	(< 0.1 - 0.1)	< 0.5	0	0
Gongean Brothers Port Huron, Michigan	RG-144	2.8	1 (1977)	(0.1 - 1.8)	< 0.5	0	0
Hunt Process Sante Fe Springs, CA	RG-244	0.8	1 (1977) (4)	(0.5 - 3.5)	1.0	1	0.3
Hysol-Dexter Olean, New York	RG-244	-	1 (1973)	(0.9 - 3.3)	1.5		
Pittsburgh, CA	RG-144	1.4				0	0
" "	RG-244	7.0				0	0
Industrial Coatings & Specialties, Houston, TX	HPO	1.6				0	0
	RG-244	-	1 (1981)	(0.1 - 1.0)	< 0.5		

(4) No Calidria in use during monitoring tests, only Carey 7TF12 asbestos.

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated TWA (2) Fibers/cc	Risk Factor (3)	Estimated Business Loss (4) at 0.5 fibers/cc TWA (Pounds $\times 10^{-3}$)
Intercoastal, Union City, CA	SG-210	23.8	1 (1973)	(2.6-51.1)	> 20	3	23.8
Irathane Systems Hibbing, MN	RG-244	1.6	1 (1979)	0.3	< 0.5	0	0
I. W. Industries Houston, TX	RG-244	4.2	1 (1974)	(0.2-1.4)(5)	< 0.5	0	0
I. W. Industries Houston, TX	RG-144	0.4				0	0
J. W. Mortell Kankakee, MI	RG-110(6)		3 (1972, 74, 77)	(0.2-28.9)	> 2.0	3	
Warren, MI	RG-144	2.8	1 (1977)	(2.4-4.0)	> 2.0	3	2.8
Riverside, CA	RG-110	72.9				3	72.9
Riverside, CA	RG-144	1.4				3	1.4
Perth Amboy, NJ	RG-144	1.4				3	1.4
Perth Amboy, NJ	RG-110	4.2				3	4.2

(5) Canadian and RG-244 were used during monitoring tests.
(6) Canadian 7R asbestos and RG-110 and RG-144 were used during monitoring tests.

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds (X 10^{-3})	No. Dust Counts	Range (1) (Fibers/cc)	Estimated (2) TWA Fibers/cc	(3) Risk Factor	Estimated (4) Business Loss at 0.5 fibers/cc TWA (Pounds X 10^{-3})
J. W. Mortell Mansfield, TX	RG-110	2.8				3	2.8
Griffin, GA	RG-110	14.0				3	14.0
Kentile Floors Chicago, IL	SG103-5/104	7956.0	1 (1980)	(0.3-1.7)	0.8	1	2625.5
Brooklyn, NY	SG130-5	3780.0	2 (1972,1980)	(0.2-3.4)	0.8	1	1247.0
Matcote, Houston, TX	RG-244	2.7	1 (1979)	(<0.1-1.6)	< 0.5	0	2.7
Michael Walters Valier, IL	HPO	246.0	5 (1973, 75, 76, 78, 83)	(0.1-37.2)(7)	0.5	1	81.18

(7) This company's operations for dust content have improved over the years and their latest dust count was still within 0.5 TWA. However, the mixing operation still exceeds 2 f/cc.

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Customer	Product	1982 Volume Pounds ($\times 10^{-3}$)	No. Dust Counts	Range (1) (Fibers/cc)	Estimated (2) TWA Fibers/cc	Risk Factor (3)	Estimated (4) Business Loss at 0.5 fibers/cc TWA (Pounds $\times 10^{-3}$)
Montello	SVB	1193.0	10 (1980-83)	(< 0.1-7.8)	0.1	1 (8)	393.7
Montello	Univis	180.0	10 (1981-83)	(< 0.1-0.4)	< 0.1	1 (8)	59.4
Micakote	RG-110	5.6	1 (1979)	(< 0.1-14.6)	0.5	1	1.8
Mission Coatings	RG-244	21.2	1 (1978)	(0.1-0.6)	< 0.5	0	0
M-R Plastics	HPO	15.8	1 (1982)	(0.1-2.4)	< 0.5	0	0
Permite	RG-244	0.4	2 (1981)	(< 0.1-0.3)	< 0.5	0	0
Prairie Company	HPP	0.04	1 (1973)	(0.1)	< 0.5	0	0
Products Research, CA	RG-244	88.0	3 (1979-1983)	(< 0.1-1.1)	< 0.5	0	0
Professional Pool Plastering	HPO	1.6	1 (1980)	(< 0.1-0.3)	< 0.5	0	0
Quadrant Chemical	RG-144	0.4	1 (1978)	(< 0.1-0.6)	< 0.5	0	0
RCA Rubber	SG-200	960.0	1 (1976)	(0.5-1.0)	0.5	1	316.8
Southern Imperial Coatings	RG-244	6.0	1 (1974)	(0.1-0.4)	< 0.5	0	0

(8) Risk factor is based on 0.1 f/cc TWA in drilling industry using materia' at outdoor dumping locations. For indoor on-site handling of material, risk factor should be seem as 2.

UCC CUSTOMER IMPACT OF 0.5 FIBERS/cc TWA ASBESTOS EMISSIONS STANDARD

Customer	Product	1982 Volume Pounds (X 10^{-3})	No. Dust Counts	Range (1) (Fibers/cc)	Estimated (2) TWA Fibers/cc	Risk Factor	Estimated (4) Business Loss at 0.5 fibers/cc TWA (Pounds X 10^{-3})
St. Louis Paint	HPO	18.6	1 (1982)	(< 0.1-6.4)	0.6	2	12.3
Tuff-Kote	RG-244	16.0	1 (1974)	(0.1-0.3)	< 0.5	0	0
U.S. Tennis(9)	HPO	3.2	1 (1982)	(< 0.1-10.0)	0.7	1	1.1
V.I.P. Enterprises(10)	RG-110	2.8	1 (1982)	(0.1-35.0)	3.0+	3	2.8
Western Specialty Coatings	HPO	1.8	1 (1982)	(< 0.1-0.2)	< 0.5	0	0
		15,755,620 lbs.					4,968,980 lbs.
		7,877.8 tons					2,484.49 tons

TOTAL ESTIMATED LOSS = $\frac{2484.49}{7,877.8}$ 31.5%

(9) Although this estimated TWA is high, U.S. Tennis in St. Louis can significantly solve emission levels with some inexpensive work practice changes.

(10) V.I.P. was in the process of installing dust collection equipment at the time of the monitoring. Status now is unknown.