PLAINTIFF'S EXHIBIT
Union Carbide 429

Folder I-2

ASBESTOS 5-YEAR PLAN (1978-82)

Union Carbide's Asbestos Business is based upon an enormous short-fiber ore deposit in the Diablo Mountains of Central California, and a mill located some 60 miles away in the Salinas River Valley near King City. The short-fiber character of the ore precludes use of this material in the major markets served by longer fiber asbestos including: asbestos cement building products, textiles, felts, and friction materials. However, Union Carbide's short-fiber asbestos is competitive in some of the so-called Group 7 markets including: vinyl asbestos floor tile, drilling muds, tape joint compounds, ceiling tile, reinforced plastics, adhesive and sealants, coatings and paper. Table I provides information on the volume growth rate of these Group 7 fiber markets and Union Carbide's past and projected sales tonnages.

"Calidria" sales have grown from about $2.4 million in 1971 to an estimated $5.4 million in 1977, with continuing attendant improvements in net income. It is estimated that sales will be marginally higher in 1978 at about $5.7 million and will grow to $7.4 million* by 1982. In the same period, sales volume will increase from about 24,000 tons to 30,800 tons. (Depending on product mix, mill capacity is about 35,000 tons.) The increase in sales revenues is in part attributable to increased volume and in part to improved product mix. Domestic sales of floor tile products should increase by 3,000 tons reaching a level of 11,000 tons in 1982. Continued improvements in all export product lines should occur with export sales increasing from 7,900 tons in 1978 to slightly over 10,000 tons in 1982. Export will contribute 33% of sales volume and 40% of sales revenues in the outpost year. Again, with reference to the outpost year, RG-244 a highly profitable thixotropic agent added to polymeric materials for viscosity control, will account for only about 6% of the sales volume, but will supply 44% of the sales revenues. Table II provides data summarizing Union Carbide's market share and that of major competitors in selected short-fiber markets.

In the ensuing 5 years (1978-82), the major element of uncertainty will continue to be government regulation. At the present time, the OSHA standard for airborne asbestos fibers in the work place is 2.0 fibers per cc time-weighted-average. In October, 1975, OSHA proposed that this standard be lowered to 0.5 fibers per cc and in 1976 NIOSH, who serve in an advisory capacity to OSHA, recommended that the standard be further reduced to 0.1 fiber per cc. Two years have past since the 0.5 fibers per cc level was officially proposed by OSHA in the Federal Register without any action by the

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*/ In 1978 dollars

government. At the present time, our King City mill is in compliance with the 2.0 fibers per cc standard, but it is not obvious that the airborne dust level can be reduced to 0.5 fibers per cc without substantial infusions of new capital, and the technical feasibility of achieving a 0.1 fiber per cc level is remote at best. Even assuming that we could achieve compliance with these stringent proposals, it is unlikely that many of our customers will be willing to undertake the requisite investment to achieve compliance in the event that these more stringent standards are eventually promulgated. In such an event, we should be forced to seriously consider withdrawing from the business.

Since the short-fiber asbestos cannot be used in many conventional markets, historically Union Carbide has devoted substantial resources to developing new applications for short-fiber asbestos. One such development is RG-600, which is produced by treating high purity asbestos with phenolic-based coupling agent. RG-600 is cost competitive with fiberglass for the reinforcement of thermoplastics. During 1977, several market opportunities for RG-600 were uncovered and are being vigorously pursued. The major barrior to acceptance of this product in the market place appears to be the asbestos toxicology question, rather than the technical performance of the material. During 1977, another new product was perfected in the laboratory. This product involves treating asbestos fiber with a siliane coupling agent for use in oil based drilling muds as a viscosity control agent. Both the siliane treated asbestos and the RG-600 can be produced at the King City mill, with minor process changes involving working budget monies. Neither of these products has been factored into the 5-Year Sales Forecast.

WCT
10/13/77

TABLE I

CALIDRIA ASBESTOS SALES

Market	Annual Growth Rate, %		Calidria Sales			
			1976		1982	
	Historical	Thru 1982	T	%	T	%
Floor Tile	5	3	9150	37	13500	44
Drilling Fluids	7	3	3130	13	4100	14
Tape Joint Compounds	-	-	4550	19	2800	9
Adhesives and Sealants	-	6	2000	8	2900	9
Coatings	-	3	800	3	1000	3
Ceiling Tile	-	-	2350	10	2720	9
Paper	-	6	1360	5	2100	7
Reinforced Plastics	7	10	600	2	1000	3
Rubber	-	-	620	3	660	2
			24560		30780	

TABLE II

CALIDRIA ASBESTOS COMPETITIVE POSITION

	Floor Tile		Drilling Muds		Tape Joint Compounds		Reinf. Plastics (Thixotrope)		Rubber		Paper		Adhesives & Sealants		Coatings		Ceiling Tile	
	1976	1982	1976	1982	1976	1982	1976	1982	1976	1982	1976	1982	1976	1982	1976	1982	1976	1982
Total Market, T	80000	90000	8000	10000	10000	4000	8000	12000	3000	5000	2000	3000	18000	24000	8100	9400	2500	2800
UCC Share, T	9150	13500	3130	4100	4550	2800	600	1000	620	660	1360	2100	2000	2900	800	1000	2350	2720
UCC Share, %	11	15	39	41	46	70	8	8	21	13	68	70	11	12	10	11	94	97
Competitors, %																		
Carey	40	40	-	-	54	30	-	-	30	30	32	30	30	30	30	30	6	3
Atlas	20	18	5	5	-	-	-	-	-	-	-	-	10	7	-	-	-	-
J-M	29	27	56	54	-	-	-	-	49	48	-	-	44	44	50	49	-	-
Cabot/Degussa	-	-	-	-	-	-	85	85	-	-	-	-	5	7	10	10	-	-

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