Inter Office

Car Engineering

October 12, 1978

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Subject: Raybestos-Manhattan Friction Products Non-Asbestos Review

A presentation was given to Ford personnel September 27, 1978 at the Raybestos-Manhattan Corporate Headquarters in Trumbull, Connecticut on the development of non-asbestos products. The following issues were discussed on the agenda:

Regulation

Based on three reports, the British Parliamentary Committee, consisting of 15 members, will recommend by 1979 a lower standard. British industry is guessing at 1 fiber/cc. The US Government (OSHA) is not expected to take action until next spring on a lower regulation. R-M considers 1 fiber/cc as feasible but admits a .5 fiber/cc standard would be legally challenged by industry.

Supply Trends

- R-M purchases raw asbestos fiber from 5 Canadian mines through annual contacts and competitive bidding. Procurements have been completed for 1979-1980 with a nine month supply on hand.
- Asbestos is currently not purchased from Russia because of the lack of purity and the crude consistency of the fiber.
- Canada is considering the establishment of a cartel to control all marketing of asbestos fiber through the government.
- On a lower order of magnitude cashew nut shells have been affected politically by a fabricated supply and demand condition. Substitute materials have been considered in light of these pressures.

Price Trends

- Responding to escalating inflation, price trends began to rise between 1974-6 with a 6.2-7.5% per annum increase. Since that period prices have advanced 8-10% per year. This is projected to continue as a long term trend.

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Price Trends (continued)

- Between 1974-6 the cost of spinning grade fiber increased 30.1%, causing concern for clutch facing fabricators, who are dependent upon this grade for manufacture. Future increases have equalled those established for other fibers.

Plant Compliance

- It is anticipated OSHA would allow sufficient time to comply with new standards. An abatement period would extend time for re-formulation or the implementation of engineering controls.

- Each employee is provided with medical attention exceeding $2,000/yr., in addition to workmens compensation and insurance premiums totalling $2 million/yr. Expenditures in this area are subject to increase due to more frequent litigation and further health requirements imposed by the government.

- In Ireland, litigation and Irish government interference has resulted in a one year closing of the 2 yr old R-M friction facility. Although samples obtained from the plant are within the 1-2 fiber/cc level the Irish Government requires air samples continually be sent to Irving Selikoff, Mt. Sinai, for analysis. Residents of the area have picketed the plant from inception.

Asbestos Elimination Program

R-M policy is either to comply with government regulations or eliminate the need for asbestos fiber. Research projects for the last few years have been restricted to the development of non-asbestos products. An internal non-asbestos target date of 1982 has been chosen to avoid major capital expenditures and the escalating costs of....recordkeeping, medical check-ups, fiber level monitoring, insurance premiums, legal fees and latent liability for R-M employes and customers. In the interim R-M intends to maintain the continuity of supply of asbestos products while reducing asbestos usage in the aftermarket with non-asbestos products.

Fifty candidates have been reviewed as potential substitutes on the basis of biological effects, availability, cost, performance and processability. Substitution has required complete re-formulation and process modifications due to the larger fiber sizes (>3u) considered to avoid health effects.

Research and Development Programs

- Wet Clutch Facings (Automatic Transmission)

  The 10% asbestos content in wet clutch facings does not present a problem for substitution. The current nonasbestos paper facing ranks equivalent in cost, performance, and processing. An eight week lead time is required for production capability.

- Dry Clutch Facings (Manual Transmission)

  Extreme conditions of heat, pressure, and torque in manual systems increase the difficulty in substituting 50-70% of the asbestos content with a composition that will serve as a suitable reinforcing member and friction modifier. Although a non-asbestos glass facing exists for passenger units, a cost and weight equivalent will not be available until 1980. Release to the aftermarket at that time will result in an estimated Job 1, 1982 introduction.

Research and Development Programs (continued)

- Brakes

  R-M is currently not a supplier to Ford in this area. However, testing is scheduled to be completed the first quarter of 1979 on a fiberglass/sisal composite, followed by aftermarket introduction. Emphasis has not been placed on semi-metallic systems due to the weight and noise characteristics of the product. A release date of Job 1, 1983 is planned for passenger components and Job 1, 1984 for heavy duty segments.

Conclusion

- Ford representatives were generally impressed with the level of funds and effort expended on non-asbestos programs. Given three years, R-M will be in a primary position to offer non-asbestos products to the market.

- Concern was expressed by R-M President, Bob Gordon, of a potential shift in asbestos manufacture to the Orient, as a result of future U.S. regulations and litigation. Such competative firms would prove detrimental to U.S. friction manufacturers.

- Although it was emphasized by Ford representatives that the acceptance of a substitute be predicated on acceptable performance, cost and weight, R-M contends that elimination of asbestos could result in limitations on our criterion.

- Extensive litigation re-affirms R-M policy to eliminate asbestos. The company has been named as a defendent in 28 product liability cases brought by asbestos workers and 255 asbestos cases brought in other jurisdictions by 448 plaintiffs who seek between $200,000 and $5,000,000 each.

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