March 12, 1968

cc: Messrs.
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Finis Morgan
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To: Mr. C. H. Sommer

Subject: MMK - INSTALLATION OF BIPHENYL AND AROCLOR MANUFACTURING FACILITIES - YOKKAICHI

The attached project is another in the expansion program described to the Executive Committee in October, 1967, and was included in the over-all MMK financial program approved in principle by the Executive Committee on October 9, 1967. The project broadens and strengthens MMK's base by establishing another product line having excellent long-term potential.

The rapidly growing Japanese market for chlorinated biphenyl (Monsanto's trade-mark is Aroclor) is supplied by only one producer. There is room for two, and timely entrance by MMK with this project will permit MMK to share in the market growth. Intensive market studies by Organic Division and commercial sales of MC products have confirmed the good acceptability of Monsanto Aroclor in the Japanese market.

Projected return on gross investment of 6.2% is attractive in the context of Japanese business, being equivalent to 19.2% return on equity under MMK's debit-leveraged capital structure. Income, before tax and interest charges, is equivalent to 17.2% of gross investment. The payout of 6.8 years would be shorter if the biphenyl unit were installed simultaneously with the Aroclor facility. However, initial requirements for biphenyl are too low to justify manufacture. Therefore, biphenyl will be purchased initially and manufacture is timed for start-up 18 months later. The Aroclor products are part of the Functional Fluids product group, which has a forecasted 1972 gross investment of $46 M and return on investment of 10%.

Under the MITI-approved know-how license to MMK, Monsanto will receive $30,000 for the design manual and royalty of 4% of net sales for 10 years. Royalty for the first five years of operation is estimated to total approximately $246,000. MMK will be licensed to use the Aroclor trademark in Japan.

Corporate Planning and Evaluation comments as follows:

> "The total Japanese market growth is projected at 15-20% per year and MMK's share is expected to reach 45% by 1971 with Mitsubishi companies being a major factor in the growth. This project was forecasted in the 1967 LRP."

Treasury Department comments as follows:

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"This project was included in MMK's Five-Year financial program which contemplated use of internally generated cash, increased borrowing in Japan and renewal of a $5 M loan from a United States bank. Because of subsequent United States government and Federal Reserve Board regulations affecting direct investment and bank lending abroad, it may become necessary to raise this $5 M outside of the United States, if available. (See Mr. F. Morgan's memorandum to Mr. C. H. Sommer dated March 12, 1968.)"

Central Engineering Department has reviewed this project and agrees that it can best be implemented by the MMK engineering staff. Central Engineering will provide the process design manual.

Organic Chemicals Division and International Division recommend that this project be approved and that the Monsanto Company representative director on the MMK board be instructed to vote for this project on behalf of Monsanto. Mitsubishi Chemical, our partners in MMK, have endorsed this project.

T. K. Smith, Jr.
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