Kemica's Ethane Conversion Project

A Case Study in Petrochemical Joint Venture Investment within a Divestment Scenario

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Abstract

Smaller, aging petrochemical operations often become "defensive," meaning they become competitively challenged by larger plants. This can make it difficult for shareholders to decide whether to invest in plant upgrades. Even when the pro forma economics look attractive, shareholders are intuitively wary of investing in plants they know are likely to grow less, not more competitive over time. The decision can become even more difficult when the alternative to reinvestment is a shutdown/mothball case with its own competitive implications.

This case study presents such a dilemma. Kemica has been struggling financially for a decade. Although it dominates the Australian polyolefins market, import competition has progressively impacted prices and eroded margins. Kemica has not been aided by its own operating problems and union difficulties. These have helped the imported product to gain a foothold while causing shareholders to decide that divesting Kemica is their best strategic option.

Now a feedstock crisis has created a new challenge. One of Kemica's ethylene crackers has been running heavy gas oil received from a neighboring refinery. The refinery has given notice it can no longer provide this material after 2005. An alternative feedstock supply plan has been developed, but to implement this plan Kemica will have to spend $A 50 M to revamp its cracker. This revamp project shows an expected return of 35%. One shareholder however is skeptical. It considers that return estimate to be inflated by the inclusion of various "avoided costs." In its view the ethane conversion project looks like a case of "throwing good money after bad." It especially doesn't like the idea of investing new money in a "soon-to-be-divested" operation. Kemica's alternative case would involve shutting down the cracker, laying off workers and shrinking its market share.

This case study asks students to review the project economics in the light of two strategic considerations: 1) Kemica's competitive position in the regional polyolefins market; and 2) how to maximize divestment proceeds for Kemica's shareholders. The former requires students to determine who will be the Australian polyolefins market's "marginal supplier," and what does that imply for future pricing. The second requires students to translate the ethane conversion and shutdown cases into different "expected net changes in divestment proceeds."

This case reflects operating issues and an investment decision for an Australian polyolefins manufacturing during 2003-04.