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XF: none

DATE: November 5, 1990

VISTA

Interoffice Communication

SUBJ: **WASTE MINIMIZATION PHILOSOPHY**

The attached article describes the involvement of business areas in DuPont's waste minimization programs. As we progress with our waste minimization programs and continue to search for areas of improvement beyond the "classical" plant projects, we will need to find upgrade or marketing opportunities such as those described here. Cooperative, innovative efforts will be needed.

Tom

T. G. Grumbles

dlj

Attachment

Distribution: R. Flammer, R. Andersen, W. Vogel

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VVV 000011421

Du Pont profits by maximizing minimization

Du Pont's (Wilmington, DE) petrochemicals department's commercialization of its by-product streams is emerging as a key strategic tool in the battle to cut hazardous waste generation. Since the early 1970s Du Pont has had an active policy of finding outlets for by-product streams—expected to garner $70-million sales this year. Now the firm is changing gears.

"Our focus has switched from going after the most obvious market opportunities to using the approach as a vehicle to reduce waste generation," says Harold Pollack, manager of business development/petrochemicals. That program is being rapidly expanded, with a network across Du Pont's various divisions. Pollack's team of 20—a four-fold increase since 1985—is working to identify, and peg commercial outlets for, waste streams "that will cause the worst problems soonest," he says.

Du Pont added a new product line—isobutyl esters of di-basic acids, generated during adipic acid output—to its 15-product portfolio earlier this year. Methyl esters of di-basic acids were Du Pont's first by-product, commercialized in 1972. After "intense technical work on the formulation," Pollack says, the products found outlets in solvent applications and as a paper chemical. With increasing concern on volatile organic content in the workplace, demand for these products as solvents to substitute methylene chloride and acetone has been growing at 15%-20%/year in the last three years, Pollack says. Du Pont is now sold out, and has started purchasing other adipic acid producers' by-product streams.

Pollack expects to launch a new line of derivatives of 2-pentene-nitrile—another nylon chain by-product, structurally similar to acrylonitrile but without the carcinogenicity—by year's end. Du Pont researchers have patented a method to overcome the product's shortcoming—lack of reactivity. One use Pollack sees is in epoxy applications. And a program to capture benzoic acid and phthalic acids, generated via terephthalic acid production and currently incinerated, is under way for 1993 startup. Pollack sees a "good market" for the products in polyols.

Strong products in the existing lineup include acrylonitrile by-product acetonitrile, formerly deep-welled; derivatives of methyl glutaronitrile (MGN), a by-product of adiponitrile; and C_{10}-C_{11}-C_{12} acids used as corrosion inhibitors. In MGN derivatives, Du Pont developed a new high-yield hydrogenation catalyst. The pay-off: a product with special polymerization characteristics for polyamide and polyurethane copolymers that has won 30 customers within three years, and "hundreds of development programs," Pollack says. "We're selling the product at reinvestment economics."

"You start off by treating every organic stream as having great value—but you haven't identified the customer yet," Pollack says of Du Pont's approach. High oil prices and the pressing waste issue assure further development: Du Pont's petrochemicals department expects to generate $250 million/year from "by-products" sales and avoid $100 million/year in disposal costs by 1996.

DAVID HUNTER

FINANCE

Dow cancels initial public offering for Destec subsidiary

Dow Chemical (Midland, MI) has decided to withdraw the initial public stock offering (IPO) of its Destec Energy subsidiary in response to falling stock market conditions. The company says the 15-million share offering, representing about 25% of Destec, met with positive reviews but not cash commitments at the $16.50-$19/share price.

Destec Energy became a wholly owned subsidiary last year, when Dow combined its cogeneration operations around the U.S. with newly acquired PSE (Houston), purchased for its experience in developing cogeneration facilities. Dow has generated its own power and steam for process uses for nearly a century. It also has a coal gasification plant in Louisiana that produces synthetic gas, an alternative energy source. And the cogeneration plants are wholly fired by gas, insulating the units from the current oil shock.

> *'In tough times people want to see immediate results'*

"We had developed an internal expertise that was a little unique. These assets are vital to the company but horrendously undervalued, so we thought it would make an attractive IPO," says John Lillich, Dow corporate director/mergers and acquisitions. Many similar utilities have been trading at price/earnings multiples slightly above Standard and Poor's and other indexes, adds Lillich, "while Dow is trading at a pretty substantial discount."

Dow had hoped to unlock the value of its Destec subsidiary—"hidden" because the company's stock market value is based on the view of Dow as primarily a commodity chemical firm, subject to cyclical downturns. Concern that its assets are being undervalued in this way also led Dow to offer 92 million shares of contingent value rights of pharmaceutical subsidiary Marion Merrell Dow to the public last year (*CW, May 30, p. 17*).

But last year was another lifetime as far as stock offerings are concerned. Most offerings are being pulled, according to underwriters. "It is the rule, not the exception," says one manager. In fact, the $25-million stock offering of American Pacific (Las Vegas, NV) (*CW, Oct. 3, p. 9*), a specialty chemical company that makes ammonium perchlorate and plans to make sodium azide, is close to being scrubbed as well.

The Destec offering was problematic even before the stock market dropped 15% since July, from a Dow Jones Industrial Average of close to 3,000 to about 2,500. Kidder Peabody (New York) analyst Richard Sweetnam notes, "In a good market you can sell 'concepts,' such as the energy shortage and selling power, to utilities. But in tough times, people want to see earnings and immediate results. They are scared to death of disappointment." And Destec has no earnings record yet.

Dow says it will repeat the offer when the market improves. The crisis in the Middle East was probably the final blow to the IPO, made on July 27, less than a week before the Iraqi invasion of Kuwait.

KAREN HELLER

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