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Handy market, favorable rates made St. Louis area a natural for Miss. River Chemical's nitrogen plant

SOMEbody just had to put up an ammonia plant in the immediate vicinity of St. Louis. There was a big market right in the area—St. Louis is one of the country's largest fertilizer centers—and low freight rates meant a good marketing area outside too. Mississippi River Fuel Corp., whose pipelines supply natural gas to St. Louis, talked with several companies about jointly building a plant, but decided ultimately to put up a plant itself and formed the Mississippi River Chemical Co. division.

The company purchased a large estate for a plant site 40 miles south of St. Louis on the Mississippi River. It engaged Fluor Corp. as a prime contractor, and construction was started in December 1954.

Trend toward Small Plants

After site selection, one of the next big decisions was plant size. Operating costs generally go down as capacity goes up—to a point; but if the plant is too large its marketing area may be extended to the point where freight rates eat up profits. Balancing these two factors, the company decided on a 200-ton-per-day ammonia plant. This size, it feels, is in line with the trend toward "small" plants for the ammonia industry, which is similar to the mixed fertilizer business in this respect. Plans called for most of the ammonia to be converted into ammonium nitrate—to be sold as the solid prilled product or in nitrogen solutions. Initial design was for product distribution of an annual 60,000 tons of solid ammonium nitrate, 60,000 tons of nitrogen solutions, and 17,000 tons of anhydrous. However, the company is currently considering adding another nitric acid unit and increasing rated capacity of nitric acid well above the initial 220 tons per day level. Output of solutions may therefore be increased somewhat, at the expense of anhydrous ammonia.

The nitric acid and nitrate units were completed before the ammonia plant, and nitrate production was started with purchased ammonia in

December of last year. The ammonia plant went on stream in March 1956. Sales were limited by production last season, but all in all the company was well pleased with its performance. It sold a substantial tonnage of nitrogen, and a great many customers learned about its product first hand. In spite of the fact that nitrogen may be in excess supply nationally for at least the next few years, Mississippi River is optimistic about prospects in its territory next year when it will face its first full season. Production is going ahead; most of it is presently being stored for the spring season—as 83% ammonium nitrate. (One of its two storage tanks holds 10,000 tons and is the largest all-aluminum ammonium nitrate storage tank in the world. Nine warehouses are available for storage of dry nitrate.)

Low operating cost of its "small" plant (which uses the Texaco partial oxidation process and Chemical & Industrial Corp. nitric acid and prilling units) and its strategic location are among the company's biggest advantages in a highly competitive business. Truck transportation is another advantage. St. Louis is a large trucking center, where many truckers are constantly on the lookout for back hauls to scattered points.

For anhydrous, the area in which the company can sell without freight equalization is limited to eastern Missouri and bordering states, but for

solutions, and even more for solid nitrate, the area is much larger. "It's amazing how small the average equalization we have to absorb can be when we ship out of St. Louis," says sales manager John Sanders.

Agricultural sales are handled by Bradley & Baker; industrial sales are currently small, and are handled by the company itself. MRC feels an established sales agency offers a distinct advantage to a company in its position. Both bulk material, for mixers, and bagged ammonium nitrate are sold under Mississippi River's "Steamboat Brand" trademark. The trademark idea originated from a 100-year-old print showing the famous Robert E. Lee churning past Kennett Castle, a pre-Civil War mansion on the Selma Farm estate which the company bought for a plant site.

Several other natural gas companies have interests in various ammonia plants, but Mississippi River Fuel is the only one to own a plant outright. Integration of raw material supply and manufacturing gives it an added advantage. Fuel demands of certain of its customers have a priority and gas service to the plant will sometimes have to be interrupted. Interim operation on oil or propane is provided for taking care of this situation.

Market Stabilizing

Like other ammonia producers, Mississippi River Chemical hasn't been exactly overjoyed by the seemingly weekly announcements of new competing nitrogen plants to be built. But the company is far from disheartened; it feels the market situation is being progressively stabilized.

Asked if, with all the advantage of hindsight, he thought the company would choose the nitrogen route to petrochemicals if it had it to do all over again, a company spokesman said: "Yes. We think we made the right decision with the information we had then, and nothing new has come along to make us change our minds."

Mississippi River Chemical's plant sits in a valley 40 miles south of St. Louis

