



CASE STUDY

Skillful Management of Chemical-Production Expansion Enables First-to-Market Success While Saving \$100,000

PROJECT BACKGROUND

A major specialty chemical manufacturer established a goal to become the market leader of amphoteric surfactants within three years. However, the growth of the market was forecasted to exceed the capacity of its manufacturing system. Further, a major customer requested a change in formulation of its amphoteric surfactant product, which existing operations were unable to support.

The manufacturer planned to transfer production of the entire product line to an underutilized processing system within the same plant. This would require relocating more than 100,000 gallons of raw material and finished product to new storage facilities, and upgrading numerous tanks to meet more stringent safety requirements.

Complicating the situation, the customer demanded an aggressive schedule enabling it to be first to market with the new formulation, then during implementation, moved up the established start-up date by one month to meet changing market conditions.

IPM'S SOLUTION

Integrated Project Management Company, Inc. (IPM) led efforts to maximize the use of existing assets, minimized impacts to existing production, and offered the shortest path to start-up of the new process. The project scope included the following components:

- Upgraded eight existing storage tanks to meet current safety and overflow protection standards, and to accommodate the new service conditions.
- Interconnected six process vessels, ten storage tanks, and the associated loading/unloading stations, which required 14 new pipelines and over 70 tie-ins to use existing pipelines.
- Specified and installed a hazardous-solid-material handling system for the addition of solid sodium borohydride granules.
- Installed a new process sewer line.
- Updated the existing human/machine interface, and added programming to enable remote control and automation of the process.

After defining the project scope, IPM led the team through the

following detailed design and implementation activities:

- Coordinated the team review and revision of over 30 process and instrumentation diagrams to capture the project scope.
- Developed a project cost estimate and budget, and created a preliminary implementation schedule incorporating input from trade labor contractors.
- Prepared and presented a capital funding request for the Board of Directors review.
- Developed a complete mechanical and electrical design package.
- Prepared scope-of-work documents for all trade labor activities, and coordinated competitive bidding.
- Developed a detailed implementation strategy and schedule (broken into two sub-projects) to minimize production impacts and address specific schedule requirements, while promoting contractor preparedness and efficiency.

- Coordinated construction management to ensure the completion of all planned installation and commissioning activities.

PROJECT RESULTS

The project was completed on time and under budget, and the asset utilization area increased from 20% to 95%. All aggressive schedule requirements were met, and only three months after project authorization the manufacturer's key customer succeeded in being the first to market with its new product. In addition, the project team was able to reduce the cost of the project by more than \$100,000, approximately 11% of the approved budget.

Upon completing the project, the manufacturer's engineering manager stated, "This project should be used as an example of how schedule-driven projects should be implemented here."



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