



Goals: Increase production throughput while maintaining current batch cycle times.



Challenge:

- An old, inefficient making system was shut down and removed from service at a chemical manufacturer's production plant
- The existing system, which was operating at 95% utilization, required a capacity increase to retain the same yield level
- The challenge was to transfer the production throughput from the retired system to the existing system while maintaining current batch cycle times
- The formulation also had to be optimized without compromising quality, which meant the ratio of reacting to grinding would be critical

Solution:

- Applying continuous improvement tools and methodology, the project team increased the batch size of the existing system by increasing the rate of raw material addition
- The team then reduced the overall mixing time, while increasing the milling rate and reducing the washing rate on the grinder
- In addition, the team was able to process more product through the grinder at the same rate, without any process upsets or adverse effects on product quality

Results:

- Annual savings of \$40,000
- 8% increase in throughput while maintaining current batch cycle time
- 8% increase in production yield of a key derivative