



Turbomachinery and Process Optimization Studies – Let's look at the numbers together

Our Turbomachinery and Process Optimization Studies are for users wanting to evaluate and optimize their turbomachinery assets and connected processes for:



CCC leverages 45 plus years of experience and thousands of machinery control solutions in different industries. We have the resources and knowledge to support your asset optimization.

CCC Optimization Studies identify return on investment factors through:

- Bringing turbomachinery optimization experience to your current and planned assets
- Creating consistency across multiple processes and machinery Original Equipment Manufacturers
- Collaborating between multiple site disciplines and roles
- Basing analysis on factual operational data from Plant Historian
- Improving intelligence regarding current operations and relevant improvements
- Calculating tangible benefits for operations and corporate Key Performance Indicators
- Providing a stronger basis for executive and managerial decision-making

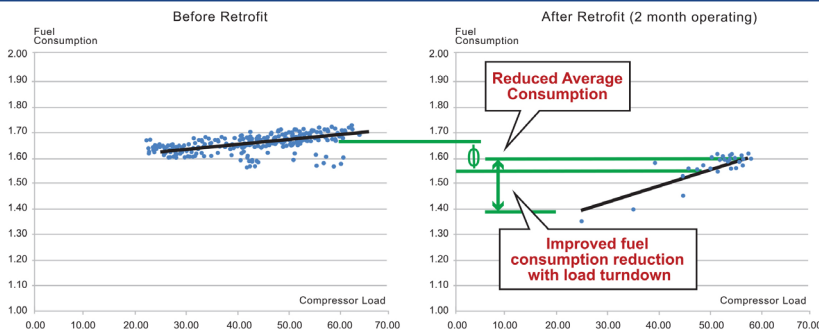
How CCC Optimization Studies works



CCC collects design and operational data and identifies limitations and constraints in current operations. Using analytical tools and engineering practices, the operating conditions and limits are properly calculated and visualized. Enhanced operating conditions are estimated and the corresponding economic benefits are quantified. The outcome of the study is delivered in a report and presentations for discussion and agreement with the end user.

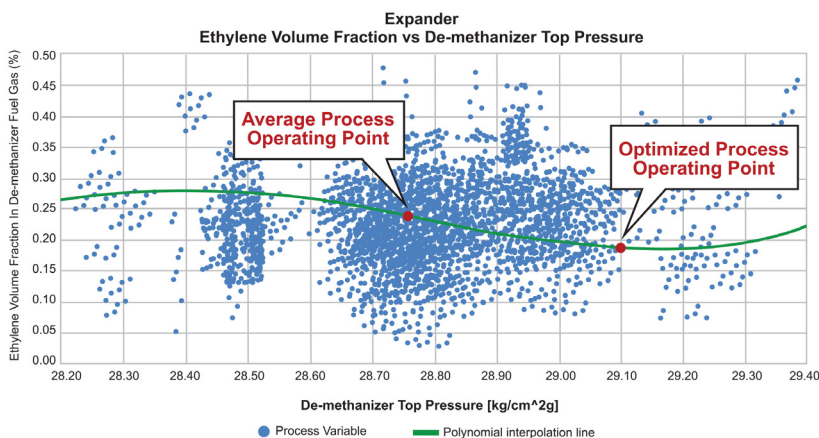
CCC supports customers to define the scope of the modifications to achieve the desired improvements. The scope and budgetary costs lead to return on investment calculations, which can be used for investment evaluations.

CCC's approach focuses across different disciplines: process, machinery, instrumentation and control. This service is performed on a specific machine/site, or as a comprehensive optimization program for the turbomachinery fleet on multiple sites. Our project engineers collaborate closely with customers onsite and are supported by global subject matter experts.



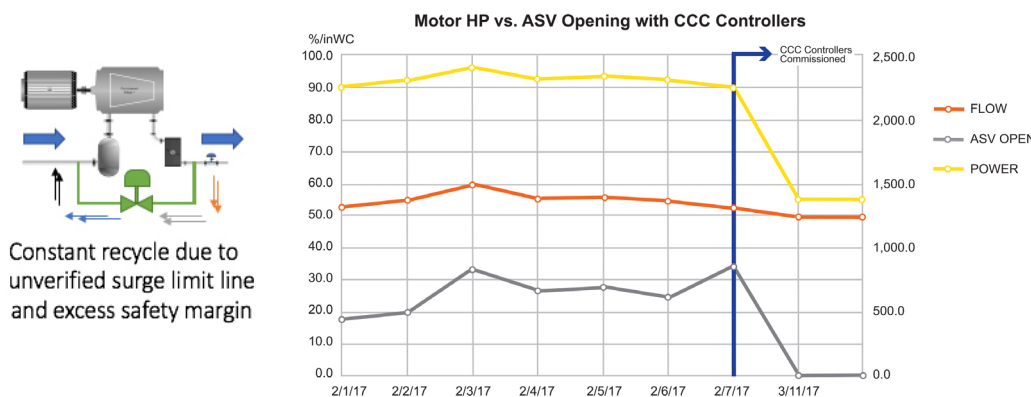
1. Fuel consumption optimization for gas turbine driven refrigeration compressor in Refinery

210k\$/year reduced fuel consumption



2. Ethylene production maximization by expander control optimization in Ethylene plant

200k\$/year increased profit



3. Motor power consumption by antisurge recycle control optimization

1M\$/year reduced energy cost

3 Reference Case Studies:



CCC Global Headquarters (Des Moines – USA) 4745 121st Street, Des Moines, IA 50323-2316 USA +1-515-270-0857 www.cccglobal.com

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