

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:



Safety



Reliability



Throughput
and Yield



Energy
Consumption



Emissions

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

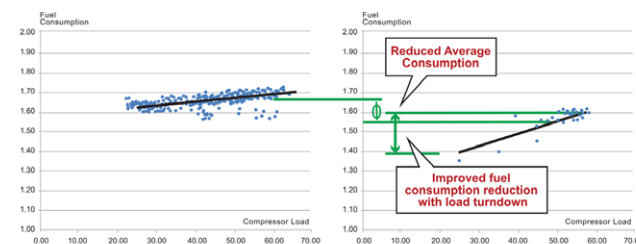
CCC collects design and operational data and identifies limitations and constraints in current operations. Using analytical tools and engineering practices, the operating conditions and limits are properly calculated and visualized. Enhanced operating conditions are estimated and the corresponding economic 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.

3 REFERENCE CASE STUDIES:

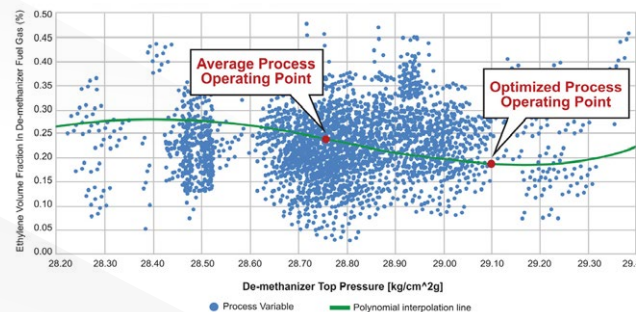
Before Retrofit



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

210k\$/year reduced fuel consumption

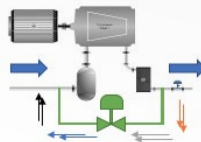
Expander Ethylene Volume Fraction vs De-methanizer Top Pressure



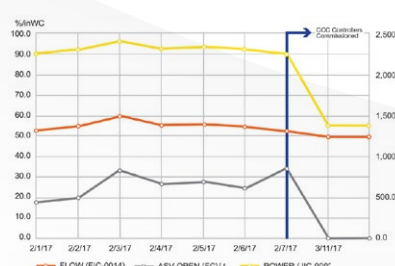
2. Ethylene production maximization by expander control optimization in Ethylene plant

200k\$/year increased profit

Constant recycle due to unverified surge limit line and excess safety margin



Motor HP vs ASV Opening with CCC Controllers



3. Motor power consumption by antisurge recycle control optimization

1M\$/year reduced energy cost

For more information

<https://process.honeywell.com/us/en/ccc/services/turbomachinery-and-process-optimization-studies>

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