Process plant operational improvement and support
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Are you maximising the capacity and potential of your process facility?

Could you use experience from engineers who have worked and improved assets across a range of industries?

Do you need additional specialist expertise?

ABB Consulting provides technical and engineering services to improve performance in the areas of compliance, operations and engineering to customers in the chemical, petrochemical, oil & gas, power and pharmaceuticals industries worldwide.

Process engineering helps to improve the efficiency and reliability of operations. Good process engineers play a vital role in improving an operation’s business performance, throughout the lifecycle of the asset.

Continuous operational improvement, together with rapid troubleshooting of existing process plant is a prerequisite for success in today’s demanding markets.

A systematic approach, linked to a thorough understanding of the process and operation can help achieve business benefits such as:

- Reducing production costs
- Improving quality
- Increasing flexibility
- Increasing throughput

Capabilities

ABB Consulting can provide experienced engineers with a broad knowledge of process plant development, specification and operation. This capability has been gained from hands on experience across all industry sectors.

Alongside this industry specific experience ABB has access to an extensive knowledge base. In order to efficiently solve our client’s problems, We use an advanced suite of chemical engineering software and proven process design methods. The process team offers over 30 qualified professionals with a wide range of expertise.

Communication with our clients is a key aspect for all of our services and we strive to understand our client’s requirements and constraints and to deliver robust, good quality solutions, on time and to budget.
Our experience
Some examples of the expertise we have provided to our clients include:

Commissioning and site acceptance tests
We provided expertise to define and develop site acceptance tests and then to work with site operations personnel to ensure the tests were carried out to standard. We then developed models and reports that could be used to demonstrate adequate performance.

We developed commissioning procedures and plans to commission two new steam raising boilers at a chemical company in the Midlands. Process engineers were based on site directing the commissioning program and arranging for the relative legislative inspections to take place prior to start up. The boilers passed all regulatory tests and production was achieved on time.

Term services
We provide term services for a number of customers in varying industries allowing them to call on our expertise to solve plant issues at times when their resource is stretched.

We assisted a local gas processing plant to modify an existing high pressure steam main to a low pressure steam main. ABB carried out the heat and mass balance calculations to size the necessary desuperheater, the associated water supply and review the overpressure protection for the header prior to installation of the desuperheater station.

Project support
Our engineers have worked alongside many clients to provide additional support in designing and specifying equipment, when they have gaps in their knowledge or resources.

We have engineers of different grades who are able to support client teams based both in their offices and in ours, provide additional support in the design and sizing of process equipment. We have supplied engineers to many clients to support them as part of their team during different stages of projects. This gives benefits to the client by supplying resource for short term secondments to supplement their own teams at times of high resource requirements.

Plant investigation and data analysis
Whether a one-off service or a longer term programme, our engineers are skilled in plant investigation and data analysis, aimed at optimising an asset to ensure it is operated to its full potential.

A local power station wanted to change its mode of operation from continuous to a two shift system. ABB was engaged to evaluate operational data and identify risks and issues associated with cyclic operation of Gas Turbines and temperature and pressure losses in the steam headers. ABB was able to identify issues and make recommendations to successfully operate the station on a two shift system.

Process simulation and predictive modelling
We have in depth expertise in process modelling, both steady state and dynamic, with a proven record of this modelling delivering beneficial results to the end user.

A client engaged us as an independent consultant to evaluate the predicted performance of their fired heaters for a feed conversion project. Using AspenTech’s fired heater software we were able to evaluate how the fired heaters would perform and make recommendations to ensure the integrity of the heaters.

Benefits
Working with ABB’s process engineering support brings a range of benefits, including:

− Achieving business benefit from improving operations of existing process plant
− Reducing production costs, increasing product quality and increasing capacity
− Improving your business' bottom line through efficient use of energy
− Increasing process flexibility and performance
Process engineering services:
- Basic engineering studies
- Process operation development and evaluation
- Computational modelling
- Dispersion and radiation modelling
- Front End Engineering Design (FEED and FEEP)
- Hazardous area classification
- Process safety design
- Pressure relief assurance and training
- Process plant support
- Safety study action closeout
- Flare and blowdown studies

Other ABB capabilities include:
- Inspection
- Integrity management
- Operations improvement
- Process safety
- Project services
- Site and asset regeneration
- Technical engineering
- Technical software
- Technical training and competency

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