A changing market
In a rapidly changing market driven by de-regulation and globalization, more and more customers are looking into cost-efficient upgrades increasing the lifecycle of their capital equipment and meeting more challenging requirements towards performance, maneuverability and availability.

ABB’s solution, our customer’s benefit
The Egatrol® concept for retrofitting power plants is a tailor-made solution, utilizing electrical and mechanical components as well as products of the ABB control system. It ensures a state-of-the-art turbine control system well integrated into the overall plant.
Situation

Due to the phased out of I&C equipment or the wear of mechanical parts, older combustion turbine sets often show a lack of reliability and availability, whilst the major turbine and generator components are still offering a substantial remaining lifetime. Often obsolete old control and protection system don’t allow to fulfil the high demands on quality and proper operation within the power network. Therefore old combustion turbines run on base load for low prices, but with over proportional high costs for operation and maintenance.

ABB can offer the complete range of equipment for retrofit:

- installation of a new Egatrol® turbine control operating and monitoring system, incl. automatic start up and shut down sequence
- substitute of old and obsolete control equipment by electronic speed governor offering fully automatic operation of the turbine
- substitute of mechanical / hydraulic protection system
- implementation of electronic governor protection, temperature-, load & frequency control
- implementation of state of the art machinery supervision system with diagnostic capabilities
- implementation of dual fuel capabilities
- renewing of electrical devices like Generator Protection, AVR, Synchronizing device etc.
- installation of a unit control system
- complete services: site assessment including feasibility studies, design, engineering, installation and commissioning.

With the Egatrol® gas turbine control & protection system ABB has developed a modular package that can be combined to any tailor made solution reflecting the status of the current equipment and the required performance of the gas turbine:

- handle peak load demands
- handle primary frequency control
- fast loading / unloading transients
- island operation
- minimized start-up time

State-of-the-art turbine control system

To achieve maximum availability and reliability, the turbine control makes use of a redundant, fault – tolerant and fail-safe architecture with a master/slave configuration for closed loop control and up to two-out of-three voting for turbine protection.

Competence in Mechanics and Hydraulics

The ambient conditions within gas turbines require highly demands to the surrounding equipment. Therefore we supply our customers only with well proven devices improving the reliability of the system.

Fuel Control Valve
Our solutions, whether electrical servodrive, low-pressure hydraulic or high-pressure hydraulic with their own oil supply up to 200 bar can be integrated in almost all mechanical systems.

Integration as a major task in system configuration

- Multiple available ABB hardware platforms allows an optimized integration into existing installations of the overall plant DCS (common modules, common tools, common operator station, common spare parts, ...).
- ABB - ONE partner for all your needs, gives you the possibility that all interfaces, either for the mechanics or electronics will be seamless integrated and fit together as one - with no extra efforts for our customers.

Increase profitability

Considering the advantages that can be obtained by retrofitting there is no need to wait until the first trouble occurs by obsolete equipment:

- meet requirements for UCTE-market
- produce power for the spot market
- sell your power for the best price
- reduce maintenance efforts
- enhance reliability and availability
- lengthen the lifetime cycle of the turbine to a maximum
- enable the efficient and smooth operation of the gas turbine at different operating conditions
- avoid major and expensive damages of the system

Reducing the mechanical work on a minimum is not only a matter of investment costs.

The main advantage of this solution will be short time for the installation and return on investment (ROI).

In this way our customers have the opportunity to deliver energy at higher quality and less costs in an surprisingly short time frame.

Based on experience

ABB can draw on more than 40 years of experience in developing, manufacturing, supplying and managing control systems for turbines and power plants with more than 1200 turbine control installations worldwide.
Gas Turbine Solutions
ABB Retrofit Solutions – Egatrol®
Performance enhancement for Gas Turbines

Around the Turbine
Solutions for Turbines and Generators

- Instrumentation & Actuators
- Electro-hydraulic Solutions
- Control & Protection Systems
- Auxiliary Controls
- Supervision & Monitoring Systems
- Unit Control Systems
- Plant Management & Optimization Solutions
- Excitation Systems
- Synchronization
- Generator & Unit Protection
- High Current Equipment
- Installation & Commissioning
- Service & Maintenance
- Technical Consulting & Studies
- Training Simulators

One Partner for all your needs

ABB

ABB Utilities GmbH
P.O. Box 10 03 51
D-68128 Mannheim
Kallstädter Straße 1
D-68309 Mannheim
Phone: +49 (0) 621 381-3000
Fax: +49 (0) 621 381-2645
E-mail: powertech@de.abb.com
Internet www.abb.com

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