

S+ Applications

Combined cycle solutions



For combined cycle power plants (CCPP) utilizing both fuel oil and fuel gas for generating electricity, ABB is an ideal single-source provider with worldwide presence.

Key benefits

- Integration of process and substation automation into one DCS system
- Complete solution for electrical, control and instrumentation
- Plant-wide and company-wide access to all data
- Intuitive, consistent user interface
- Scalable solutions, with seamless evolution strategies for existing installations

Overview

ABB's approach to generating electricity in combined cycle power plants is based on these straightforward objectives: quick plant start-up, maximum plant efficiency and reliability, and minimum environmental impact. ABB has over 40 years of proven CCPP experience achieving these goals.

ABB is an ideal partner for any CCPP project. We provide competitive and field-proven solutions for new plants and rehabilitation projects, as well as extensive project services.

ABB is a trusted single source for instrumentation, control and electrical systems. Our integrated process and substation automation solutions have been optimized technically and economically to provide a best-in-class solution for your plant.

Electrical balance of plant

ABB has the engineering expertise, experience and state-of-the-art technology to deliver turnkey system integration of electrical Balance of Plant (eBoP) applications specifically tailored to CCPP. We offer complete engineering, procurement, installation, commissioning and testing; and ensure the quality of the eBoP integration with the entire plant automation system of your power facility.

Plant automation systems

ABB delivers all systems required to successfully automate a combined cycle power plant; from the plant floor to the enterprise level and from system design to operation. Our automation platform, instrumentation, valves and drives are designed for the most stringent requirements of power plant automation and are customized for steam and gas turbine power plants.

Gas and steam turbine control

ABB's turbine control solutions cover control, protection and turbine supervisory equipment and are tightly integrated into the plant automation system, giving you the advantage of seamless integration of operation, engineering and diagnostic functions. Over the last 40 years, ABB has proven expertise in more than 1,200 turbine automation projects with most turbine OEMs.

At ABB, we integrate process and substation automation into one system and we support our CCPP customers through all stages of a plant's life cycle from project development through operations to life extension.



Hydraulic solutions

ABB can supply turbine-specific electro-hydraulic and hydraulic products and solutions as well as design expertise and consulting for gas and steam turbines. Our solutions incorporate universal products and can be integrated into nearly any type of mechanical system used today.

Electrical generator auxiliaries

As part of our extensive portfolio, we have specific solutions for electrical generator auxiliaries including: excitation systems, synchronization, generator and unit protection, measuring and metering, and static starting devices for gas turbines. ABB electrical generator auxiliaries are suitable for all common types of generators.

Boiler protection and burner management systems

ABB offers boiler protection and burner management systems to ensure boiler furnace safety and fuel shutdown. We are in strict compliance with major industry standards and governing agencies. Often state-of-the-art flame scanners and detectors are needed for these advanced boiler automation systems. For this purpose, ABB has developed specific products that meet all the modern industry standards.

OPTIMAX® plant optimization

ABB's OPTIMAX® is a set of decision support tools that continuously assess conditions in the plant and provide root cause fault analysis for situations affecting the plant's performance. By continuously monitoring plant and equipment performance, and providing "what if" simulation tools, plant personnel are able to achieve higher plant efficiencies, plant availability and productivity.

Expertise

ABB has delivered power and automation solutions to more than 300 combined cycle power plants worldwide. We have commissioned more than 400 units of our fast-track, factory-tested modules, specially designed for combined cycle power plants. ABB's scope extends from integrated instrumentation, control and electrical (ICE) solutions to gas and steam turbine control systems, generator protection and plant optimization systems. We have major installations around the world, including some of the largest combined cycle power plants as well as integrated gasification combined cycle power plants.

Symphony Plus, ABB's total plant automation for the power and water industry

With over 125 years of experience, ABB optimizes performance, improves reliability, enhances efficiency and minimizes environmental impact. Combining in-depth process knowledge with an extensive automation and electrical portfolio, this expertise has been successfully deployed in thousands of demanding applications. ABB optimizes your combined cycle power plant design with Symphony™ Plus and our embedded application know-how.

Symphony Plus represents the new generation of the field-proven Symphony family of control systems with over 6,000 systems installed worldwide. Through ABB's "evolution without obsolescence" life cycle policy, we continue to provide enhancements with graceful evolution to newer technology with power and water specific products and applications.

Symphony Plus – simple, scalable, seamless, secure.

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