With over a century of experience, ABB is a leader in providing power and automation solutions that improve the efficiency, safety and performance of hydropower plants.

**Key benefits**
- Access to proven application know-how and process expertise
- Complete integrated solutions for electrical, control and instrumentation
- Reduced exposure to technical and commercial risk
- Improved ease of use through intuitive, consistent user interface
- Elimination of multi-vendor interfaces

**Overview**
Hydropower is the world’s most widely used form of renewable energy. It produces approximately 20 percent of the world’s electric power and accounts for almost 90 percent of electricity generated from renewable sources. It is clean, sustainable and emission-free.

ABB has been advancing technology and providing solutions for the hydropower industry for more than 125 years. We are the world’s leading supplier of just about every product used for power and automation for hydropower plants – from generator circuit breakers and power transformers to switchgear, motors, drives and total plant automation systems.

ABB supports its customers with a global network of hydropower centers of excellence and a professional presence in more than 100 countries.

**Complete power and automation solutions**
ABB is a leading supplier of power and automation solutions for hydropower plants. We are at work in hydropower from small plants of a few hundred kilowatts, to medium-sized plants of tens of megawatts, to giant, multi-gigawatt power generation facilities. ABB products and technology, ranging from instrumentation, control and electrical solutions to complete electro-mechanical packages for water-to-wire projects, have been optimized technically and economically to ensure best-in-class solutions for your hydropower plant. All are backed by ABB’s extensive global network of expertise and life cycle services.

**Integrated instrumentation, control and electrical solutions**
Our unique single-source capability enables ABB to provide complete and fully integrated instrumentation, control and electrical (ICE) solutions with a single, intuitive, consistent user interface. ABB integrated ICE solutions have consistently proven to save time, reduce cost and manage risk.

**ABB has one of the largest installed bases in the hydropower industry. We bring to the table leadership in power and automation technologies, and unrivaled application know-how and process expertise.**
Power plant control and protection systems
ABB modular and scalable systems manage the units, plant auxiliaries, substations, regulation of basins and hydraulic works, as well as speed/load control of hydro turbines. For protection, ABB offers a wide range of products and solutions that monitor vibration and assess the condition of turbines and generators. Our Analyst™ solution enables users to perform graphical analysis of rotating machinery data to quickly recognize significant patterns and trends.

Electrical balance of plant
ABB has the engineering expertise, experience and state-of-the-art technology to deliver turnkey systems integration of electrical Balance of Plant (eBoP) applications specifically tailored to hydropower. Each ABB electrical balance of plant solution consists of “Made in ABB” power products and systems that are recognized performance leaders in their product category.

Turbine and generator components
ABB’s turbine and generator components are tightly integrated into the plant automation system, giving you the advantage of seamless integration of operations, engineering and diagnostic functions. Our intelligent hydro governors, high-performance excitation systems and static starter systems ensure the safe, reliable and economic operation of turbines and generators.

Life cycle support and service
ABB supports its customers with a complete portfolio of life cycle services to ensure long-term, efficient and cost-effective operation of their hydropower assets. ABB service contracts meet the needs of customers worldwide, and are supported by a professional network of local service resources.

Expertise
ABB has supplied solutions for more than 300 hydropower plants, including the largest hydropower plants in the world. Our solutions cover a broad spectrum of customer requirements – from extending plant operating life to improving plant efficiency and safety; to modernizing or integrating plant instrumentation, control and electrical systems; to enabling power generators to comply with important regional power transmission requirements. For more than a century, ABB solutions have met or exceeded our customers’ targets and requirements.

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 hydropower plant 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.

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