ICE Services

Integrated solutions for Instrumentation, Controls and Electrical infrastructure











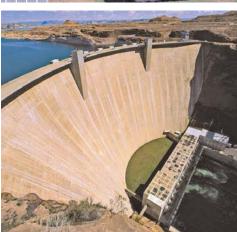


ABB ICE services provide comprehensive and cost effective solutions for ABB and non-ABB instrumentation, controls and electrical infrastructure.

Comprehensive solutions and services

In-house projects and services can require working with multiple suppliers, several project managers, complex schedules, and extended project duration.

ABB experience in engineering, procurement and construction for ICE (Integrated Instrumentation, Controls and Electrical Infrastructure) service solutions eliminates the need to work with multiple suppliers. As the industry leader in power generation solutions and products, we assure expedited project delivery, meet demanding cost and schedule requirements, and manage risk.

To facilitate communications, an assigned ABB project manager provides single-source responsibility for coordination of all project phases for retrofits, upgrades and life extensions.

Single source advantages

The ability to single-source solutions across the entire value chain for existing plants provides economical and technical advantages.

- Single point of contact for all ABB and third party activities
- Value-added engineering to reduce project cost
- Enhanced economical and technical applications by utilizing the broad competence of ABB
- Compliance with site standards improves standardization with other installations
- Integrated project schedule and greater schedule control
- Free up plant personnel to perform core job functions



Industries served Utility power generation

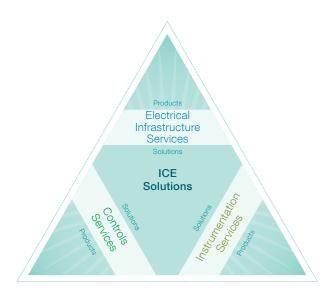
Solar power

Water and wastewater

BioMass generation

Wind power

Hydro power



Applications

Knowledge and expertise resulting from industry focus, allow industry-specific services and solutions that help to lower cost and improve productivity. These include, but are not limited to the following:

- Arc-flash and safety assessments
- Energy efficiency
- Transmission and distribution
- Environmental upgrades
- Instrumentation upgrades
- System capacity upgrades
- System reliability upgrades
- Life extension projects
- Custom design projects
- Electrical studies
- Controls upgrades and expansions

Post-commissioning services

ABB's experienced team and factory trained technicians provide the following post-commissioning services assist in supporting on-going operations:

- Corrective and preventive
- Technical support
- maintenance
- Training
- Emergency services
- Troubleshooting
- Monitoring and diagnostics
- Upgrades
- Repair and refurbishment
- Outage services
- Spare parts

Integrated ICE solutions

ABB solutions offer coordination and management of all project areas for ABB and third party equipment, including, but not limited to the following:

Instrumentation

- Flow

Analytical

Temperature

- Actuators and positioners
- Pressure
- Legacy damper control
- Recorders and controllers
- retrofits

Controls

Hardware upgrades

- Control optimization changes
- Firmware and other software Alarm management upgrades
 - improvements
- Control algorithm modifications
- Console migrations

Electrical infrastructure

- LV and MV breakers and switchgear

- Distribution transformers
- Power transformers
- HV circuit breakers
- Generator circuit breakers
- Reclosers
- LV and MV motors
- Ancillary substation equipment

- Protective relaying
- Metering
- Thermographic imaging
- Cable and battery testing
- Insulating, fluid, material testing
- Excitation systems
- Low and medium voltage drives

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