



AREVA High Voltage Program

AREVA is your resource for turnkey
voltage-related solutions





AREVA's High Voltage Program has been developed over the last several years. As a 'turnkey' High Voltage Refurbishment and Replacement provider, all work is performed under AREVA's Quality Assurance (QA) Program.

As part of AREVA's continuous improvement tradition, we have developed a comprehensive training program — the High Voltage Equipment Maintainer. AREVA's High Voltage Program is grounded in safety. There has not been a single lost time injury or medical incident since the program began.

AREVA's High Voltage Program includes the following major components:

- Main Output Transformers (MOT)
- Polychlorinated Biphenyls (PCB) transformer replacement (PHT distribution and excitation transformers with silicon filled transformers)
- Breaker replacements
- Bus replacements
- Disconnect switches — metal clad switchgear
- Switchgear

Other Capabilities:

- Pickup and delivery of major components

Other benefits of AREVA High Voltage Program

- Project management
- Design, construct and in-service/routine maintenance (EPC)
- Setup and maintain protection and communication systems
- Protection and control engineers
- High voltage detailed design
- Doble license
- Ability to provide 24/7 coverage and respond immediately to your critical path challenges
- Subject matter experts: design, construction, installation, maintenance, commissioning and testing subject matter experts who are familiar with all generating facilities
- Leverage OCC and existing site resources

Investments in capital equipment include:

- Two state-of-the-art mobile oil processing units
- Two 'breathable' dry air trailers capable of maintaining -70°C dew point
- Mobile service trailer for complete overhaul support
- Complete test equipment for all transformer work: thermal imaging equipment (IRA camera); micro ohm meter; 1kV insulation tester; SFRA tester; 10kV insulation tester; turns ratio tester; CT tester; Doble tester; winding resistance; dew point tester; thermal imaging camera; hi-pot tester



Relevant Experience

AREVA Canada - Bruce Regional Office

Bruce B Unit 6 Red Phase Main Output Transformer Replacement

Due to increasing numbers within the dissolved gas profile that indicated serious failure to these aging components, Bruce Power was forced to bring Unit 6 down into an unplanned outage for the replacement of Red Phase Main Output Transformer (MOT). AREVA Canada was engaged just three days ahead of Unit 6 shutdown.

The MOT replacement was a critical path project performed under intense scrutiny in an effort to get the unit back on-line during the high-demand summer months. The original critical path schedule was 19 days, 22 hours. AREVA Canada was able to complete the project, without any safety or quality issues, in 17 days, 18 hours. With less than two days to plan, the team was able to complete this program with an improvement of 52 hours to the original schedule. The result was directly attributable to AREVA Canada's entire site team being engaged full-time on the project to ensure the challenge was not only met, but improved upon. This was the first time at Bruce Generating Station that an external contractor performed a MOT replacement. The work was completed ahead of schedule and under budget.

Bruce A Unit 4 PCB Transformer Replacements

The Unit 4 Polychlorinated Biphenyls (PCB) replacement project included one Excitation Control System and one Excitation Transformer,

four PHT Transformers and nine Distribution Transformers. The project was awarded to AREVA within one month of the Unit 4 outage.

Assessing of all prerequisite work (scaffolding, cable pan, and new cabling) started immediately. Within one week, prerequisite field work started and was executed in parallel with assessment throughout the outage. This outage was completed on time and on budget with no safety or quality events. The fixed price estimate for this work was completed on target.

Bruce B TSS8 Mid-Life Overhaul

The TSS8 Mid-Life Overhaul project was a complete overhaul of the transformer which included bushing refurbishment, oil processing, major inspections and all associated testing. The project was completed on time and on budget, even with numerous delays and additional scope.

Bruce B ABB Spare New Build

The Bruce B ABB Spare New Build project included the opening and organizing of 35 crates of transformer parts as well as the complete assembly and installation of the parts, oil processing/filtration and all associated testing required to prepare the transformer for service. The work was done according to the Bruce Power technical specifications and the site representative's direction. The project was completed on time and on budget. The estimate for this work was on target.

"I have looked after many Contractors on site over the years and there is no comparison to the quality of work, outlook on safety, dealing with and resolving issues that arise in the field."

Jim Nuhn
Bruce Power

AREVA in North America (AREVA Inc.) combines U.S. and Canadian leadership to supply high added-value products and services to support the operation of the nuclear fleet. Globally, AREVA is present throughout the entire nuclear cycle, from uranium mining to used fuel recycling, including nuclear reactor design and operating services. AREVA is recognized by utilities around the world for its expertise, its skills in cutting-edge technologies, and its dedication to the highest level of safety. Through partnerships, the company is active in the renewable energy sector. AREVA Inc.'s 4,300 employees are helping build tomorrow's energy model: supplying ever safer, cleaner and more economical energy to the greatest number of people.

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