

Enbridge – Underwood & Cruickshank Wind Farms Preventative Maintenance

CLIENT

Enbridge Ontario Wind Farm

LOCATION

Kincardine, Ontario

PROJECT DESCRIPTION

In October 2008, Enbridge acquired the 190 megawatt (MW) Underwood and Cruickshank Windfarms. Located on the west coast of Lake Huron, in the Municipality of Kincardine, Ontario. The projects are jointly referred to as the Enbridge Ontario Wind Project. Owned by the Enbridge Income Fund, the Underwood and Cruickshank Windfarms generate enough emissions-free energy to serve the needs of about 60,000 Canadian homes and save approximately 180,000 tonnes of carbon dioxide per year, combined.

Comprised of 115 Vestas, V-82 1.65 MW turbines, Underwood and Cruickshank delivers energy to the Ontario Power Authority under a 20-year power purchase agreement.

B&M SCOPE OF WORK

Black & McDonald's (B&M) Field Service Division was contracted to perform the following services:

- Review design drawings including single lines, three lines, AC/DC schematics, logic drawings
- Point to point verification of all control and secondary cabling and provide as built
- Commission the 230 kV to 34.5 kV substation including motorized & manual disconnects, CVTs, circuit breakers, lightning arrestors, power transformers, protection and control, and AC/DC systems
- Protection of element testing, logic testing of all GE & SEL relays
- Teleprotection setup and verification
- Perform primary injection to verify phase angles and ratios
- Perform overall functional tests on entire electrical system
- Telemetry testing with IESO
- SCADA points testing
- Transfer trip testing with HONI TS
- Three terminal line differential testing with HONI