

MEDIUM VOLTAGE SERVICE

OneFit for fast retrofit of circuit breakers at a utility

Welland Hydro, Canada



If you want to prolong the lifetime of your power system assets, OneFit offers a unique solution to the market compared to traditional retrofit solutions for medium voltage circuit breakers and switchgear. It is applicable for all non-ABB switchgear enabling an easy and fast retrofit of the circuit breaker.

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Photo credit:
Corporation of the City
of Welland

Project at a glance

Customer: Welland Hydro-Electric System Corporation

Segment: Utility

ABB products and services: OneFit circuit breaker retrofit solution, relay retrofit, installation and commissioning and training services

Customer challenge

Welland Hydro recently undertook a program to modernize one of their older substations. The substation was built in the 1960's and much of the equipment had become obsolete/reached end of life. This included the medium voltage switchgear of which the circuit breakers were obsolete and caused Welland Hydro operational and safety issues

ABB solution

Welland Hydro approached ABB for suggestions on upgrading the switchgear. ABB presented several options and customer selected the OneFit solution as it also provided many operational and safety improvements compared to traditional retrofit solutions. OneFit is the latest ABB hard-bus retrofill design concept embedding an integrally safe plug-in technology to easily connect the new circuit breaker to a wide range of existing non-ABB panels.

OneFit is applicable to withdrawable floor rolling apparatus where the existing switchgear frame is still in serviceable condition. The solution balances the need for a retrofill solution with reasonably limited site works and linked outage time compared to a switchgear replacement. OneFit is suitable for replacing horizontally but also vertically racked breakers, like in this specific customer installation.

Customer benefits

- OneFit breaker retrofit utilizes ABB's standard and active circuit breakers
- Electrical and remote rack in/out feature is a standard option with the OneFit solution improving safety and operations
- Modernization of the switchgear through OneFit retrofit including retrofit of the old electromechanical relays
- Retrofit completed within customer's outage window



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- 01 Non-ABB switchgear with old 5kV circuit breakers
- 02 The switchgear after the OneFit retrofit



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About the project

Welland Hydro-Electric System Corporation in Ontario, Canada is responsible for the safe delivery of electricity to homes and businesses in the city of Welland and for the maintenance of the local electricity distribution system.

The Welland Hydro project was successfully completed at the end of 2016. It was one of the first commissioned breaker retrofit project by ABB utilizing the vertical version of the new OneFit solution. The Welland project involved retrofit of four Magne-blast 5kV circuit breakers.