



MIDA

Integrated Methodology for Generator Diagnostics

Hydroelectric generating station maintenance contributes directly to the long-term operability of the Hydro-Québec generating fleet. Keeping a facility productive and in good condition requires well-established maintenance practices and optimum work organization. For this reason, Hydro-Québec Production (HQP) devotes considerable effort to fine-tuning its maintenance practices. The Institut de recherche d'Hydro-Québec (IREQ) worked with HQP to develop MIDA, a software application for improving condition-based maintenance on hydroelectric generators.

Precise diagnostics

MIDA makes for better targeting of maintenance by providing a more precise assessment of generator condition and the causes of degradation. The application is hosted on an intranet. A database receives, analyzes and stores measurement data from generating sites to assess the condition of the generators. This helps HQP to establish maintenance priorities by focusing efforts on degraded generators while ensuring adequate maintenance of the ones still in good condition.

Main features

- > MIDA consists of seven diagnostic tools chosen for their effectiveness in detecting the different signs of degradation.
- > MIDA classifies generators according to their degree of wear, using a simplified rating system that does not require interpretation by an expert.

Adopting condition-based maintenance

Hydro-Québec Production is always seeking ways to optimize its maintenance activities. One of its strategies is to transition from preventive maintenance (based on scheduled maintenance work) to condition-based maintenance, which involves real-time monitoring of instrumented equipment. MIDA is helping this transition by offering a new approach that uses a diagnostic of the equipment's actual condition.

Main advantages

- > User-friendly and powerful
- > In line with all corporate IT security rules
- > Provides access to generator condition at all times
- > Offers simple condition indicators as well as detailed analyses
- > Facilitates implementation of condition-based maintenance
- > Promotes transfer of knowledge to new personnel

For information

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