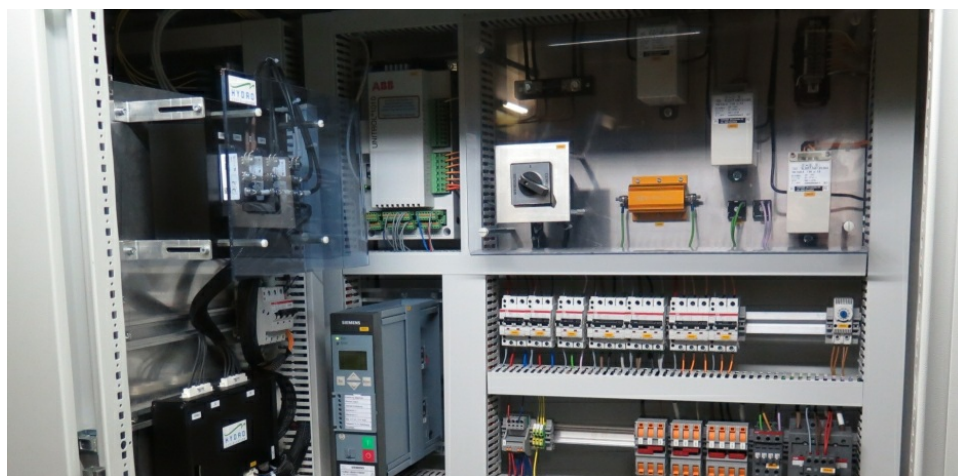


# EXCITATION SYSTEMS FOR SYNCHRONOUS MACHINES

The excitation system regulates the voltage and reactive power of a synchronous alternating-current generator.



It monitors the operating point of the machine and maintains it within permissible limits. It is therefore an important component of a hydroelectric set.

## Methodology

- Design of the (static) excitation system based on the characteristics of the alternator (and in the case of indirect excitation, the exciter)
- Development of a wiring diagram
- Supply of the excitation system (on a mounting plate or in cabinets)
- Commissioning of the excitation system
- Documentation

## Specific skills

HYDRO Exploitation's engineers have in-depth knowledge of excitation systems with ABB's UNITROL1000 voltage regulators and have already equipped several dozen facilities. Thanks to our own development work, we are in a position to offer excitation systems at several hundred amperes by combining standard manufactured components, using a thyristor bridge external to the UNITROL regulator.

On request, we can also offer synchronisation, which can be delivered inexpensively using the UNITROL internal synchronisation function and a syncro check relay. Alternatively, ABB SYNCHROTRACT (5 or 6) devices can be used, if the client wishes.

## CONTACT

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#### Client benefits

- An excitation system adapted to their individual requirements
- A system with easily replaceable manufactured components (except for the UNITROL1000 voltage regulation)
- Support from HYDRO Exploitation even after commissioning