



Modular Protection and Control Houses

The logical approach to delivering integrated protection, control and metering.

The deregulation of the utility business and transformation from a focus on construction to operations has resulted in tremendous pressure to increase efficiencies and reduce costs. Traditional methods of substation construction have become increasingly difficult to justify, given the amount of expensive and scarce qualified design, installation and commissioning expertise required.

The introduction and widespread acceptance of numerical technology across the disciplines of protection, control and metering has blurred traditional boundaries, and has accelerated the acceptance of a new approach to delivering complete solutions at lower installed cost. Virelec has led the way in being able to supply complete engineered P&C houses, which are shipped from the factory with all accessories, pre-connected, pre-set, and pre-commissioned, ready for dropping onto a foundation at site. Field labour is limited to connection of external cabling, and final abbreviated commissioning tests.

By sourcing the complete protection, control and metering package from one supplier, correct integration of the different components can be ensured, and proven through comprehensive factory acceptance testing. Virelec can apply actual field settings to all devices at the factory and simulate external field devices to avoid any costly surprises when at site.

This approach is rapidly becoming the standard in the industry, and Virelec's clients include major generating and transmission utilities, industrials, and wind and other independent power producers.

Building and Auxiliaries

The control house envelope is designed and built for the North American climate and is delivered complete with an HVAC system ready to be installed in the sub-station yard. The houses are equipped with all AC and DC distribution, batteries, protection and control equipment, and communication facilities. Each control house is fitted with both fire and security systems.

Protection, Control and SCADA Panels

Virelec draws upon a long and solid track record supplying panels to the industry. As a result we are able to design from conceptual single line diagrams or implement customer supplied standard designs. The use of automated design software ensures our engineering costs remain very competitive while preventing costly design errors.



System Integration and Testing

All system integration is performed at Virelec including relay programming, substation LAN, gateway and computer system set-ups together with data mapping between communicating devices. Virelec is able to fully test the system from battery and AC supply to control inputs and outputs to power system equipment. Breaker simulators model field devices, and our numerical relay injection test sets are able to fully test all protection and metering devices.

Delivery

Following factory acceptance testing, the building is powered down and prepared for shipping. The buildings are readily transportable to destinations across North America.