

SUCCESS STORY

Relion® product family relays to Grassridge Wind Farm project

Port Elizabeth, Eastern Cape, South Africa



Flexible engineering and seamless integration of Relion® protection relays into a demanding IEC 61850-based protection system.

Project at a glance

Customer: Brand Engineering SA (Pty) Ltd

Project engineers: Eya-Bantu Professional Services

End customer: Innwind (Pty) Ltd

Segment: Renewable energy

ABB products: Relion® 630 and 615 series protection and control relays, Gas-insulated switchgear ZX0.2, Remote terminal unit RTU560, Protection and control IED manager PCM600

Customer challenge

To ensure the highest level of operational efficiency and lowest level of risk, the end customer set demanding requirements for effective wind farm integration into the existing networks, emphasizing the need for exceptional flexibility and reliability of all components used.

ABB solution

ABB's solution is based on the compact and powerful protection and control functionality available when combining the leading-edge Relion 615 and 630 series protection and control relays and the ZX0.2 primary switchgears in the substations connecting to the grid.

The flexibility of the relays made it easy for Eya-Bantu, on behalf of Brand Engineering, to engineer and commission the relays and the overall protection scheme.

Using the PCM600 tool, the engineers from Eya-Bantu created tailor-made configurations for the relays used in the protection system. To ensure high performance IEC 61850 communication is used for both horizontal (GOOSE) and vertical communication. The high performance is achieved thanks to the compatibility and flexibility of all the different devices used.

In this project, the combination of Eya-Bantu's engineering expertise with ABB's high quality products resulted in a smooth integration of the protection relays into the existing local and remote SCADA systems via the remote terminal unit RTU560.

Further, the overall time needed to engineer and commission this project was significantly reduced as a result of the close cooperation between the partners involved to realize unique solutions to meet the specific requirements for this distribution application.



Customer benefits

- Flexible and cost effective protection and control of a distributed energy generation plant
- High quality products ensure the health and safety of the personnel and protects valuable assets from damage
- Seamless integration of the main components for supervision, protection and control with a packaged ABB solution that includes the switchgear, relays and the RTU
- Lower risks to the end customer. The partnership between ABB and Eya-Bantu facilitates close cooperation and competence transfer, resulting in high quality and professional engineering and commissioning of the project.

About the project

The Grassridge Wind Farm is located in Port Elizabeth, in the Nelson Mandela Bay Municipality, Eastern Cape, South Africa.

The installed capacity of 20 wind turbines equals 61.5 MW, which is the equivalent annual supply for approximately 40,000 South African households.

The construction was started in October 2013 and the first wind turbine was erected in July 2014. The wind farm has been in operation since January 2015.

For more information, please contact

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