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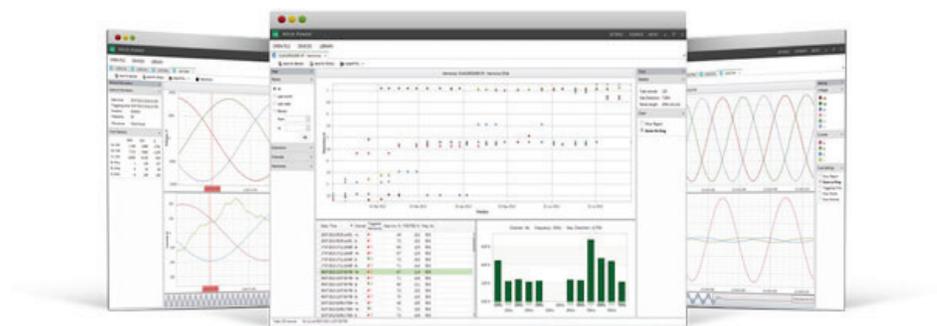
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Frontline Power Quality Metering

Cost Effective Analysis under Renewable Proliferation

6 November 2019 – The global renewable transition is well underway, whether electrical networks are ready or not. Incentives beyond electro-technical reasons are promoting the proliferation of renewable energy, with examples such as the Australian state of Queensland exceeding 2GW of installed capacity of rooftop solar.

Under proliferation of small-scale inverter driven generation, power quality issues begin to emerge. Harmonic content on the distribution lines, along with voltage fluctuations become a greater problem under the variability of supply, particularly as most power networks were not designed for power quality monitoring at the point of consumption – rather at the point of generation and transmission.



NOJA Power PQS Software

Fortunately, NOJA Power's OSM Recloser system deployed in most global distribution networks has a comprehensive set of Power Quality Monitoring features to enable utility engineers to monitor the power quality throughout the distribution grid. The reclosers are typically positioned far closer to the end customer, giving visibility to the condition of supply coming in from new small-scale renewable generation installations.

Available to all users of the NOJA Power OSM Recloser platform, the Power Quality suite of the system uses the integrated CT's and voltage sensors to report a myriad of power quality parameters, including:

- Harmonics, including Total Harmonic Distortion, Total Demand Distortion and a Fast Fourier Transform algorithm delivering harmonic measurement up to the 15th Harmonic for current and voltage
- Voltage Sags and Swells
- Interruptions, including reliability parameter calculations for reporting
- Oscillography capture
- Harmonic Protection

A key challenge for utilities under the proliferation of renewables in the distribution network is securing funds from the regulator when evidence for power quality issues is not already secured. Without the funds, it is difficult to further secure project investment to retrieve the preliminary analysis to support business cases for power quality rectification projects.

By using the NOJA Power OSM Recloser system, utility engineers can capitalise on existing assets to gain a data-driven understanding of the power quality dynamics throughout the distribution grid. Once this preliminary information is gathered through the OSM recloser, this information can then be used to make a stronger case for further investigation or capital expenditure works to drive the improvement on the network.

Harmonic Protection also allows utility engineers to configure their reclosers to report alarms back to the SCADA control room if supply quality falls below regulated targets. Harmonic protection is also being investigated as a method for detecting downed conductors on insulating surfaces such as roads or granite, providing an additional safety feature to the distribution grid.

“The PQS Software provides our utility customers with a dedicated package to upload and analysis Power Quality data from our complete range of RC10, RC15 and RC20 control and communications cubicles,” reports NOJA Power Group Managing Director Neil O’Sullivan.

To find out more about the Power Quality System in the NOJA Power OSM Recloser, contact your local NOJA Power Distributor or visit www.nojapower.com