ANM

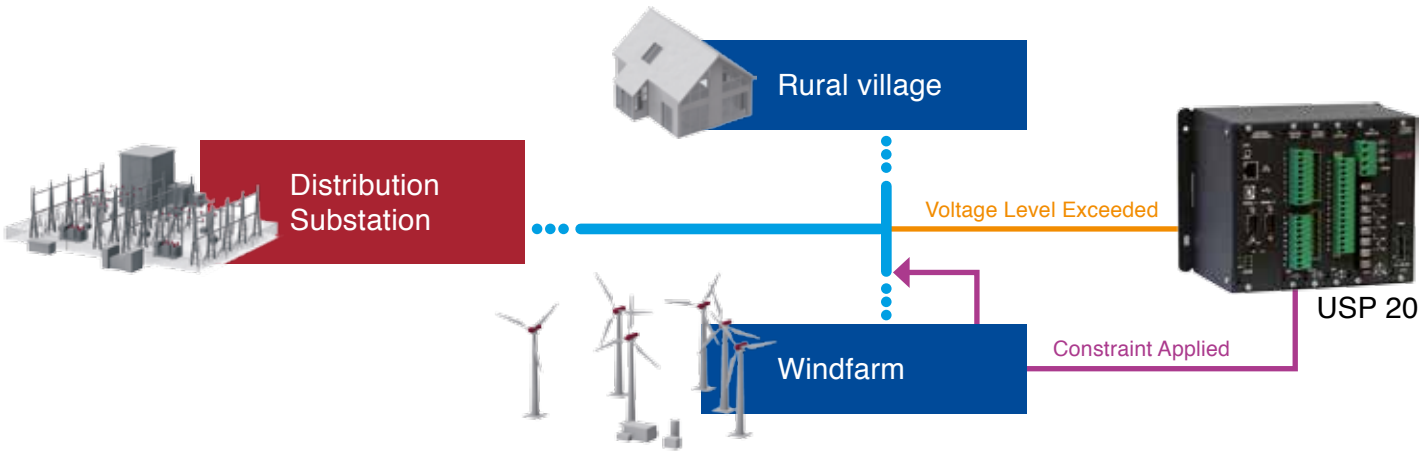
Active Network Management System

Would you like to accelerate the integration of Distributed Generation sites onto your distribution network whilst managing the impact that this additional generation has on network operations?

Monitors **Network Status** and manages **Network Constraints** in **Real-time**

The world of renewables is changing and with it industry needs are also evolving. The exponential increase in the adoption of Distributed Energy Generation such as Photovoltaic (PV) and Wind has introduced significant challenges for DNOs when it comes to the control of network voltages and power flows at all voltage levels on their network.

At times and when network conditions dictate, generators are constrained. This results in inefficiencies in operation as well as lost generation.



Genesis Family of Generation Management Controllers

- ✓ **S**tandalone or easily integrated into an Active Network Management System.
- ✓ Modular & compact
- ✓ A very cost effective solution for localized control of Distributed Generators.

A Case Study

Cauteen 110kV substation for ESBN in Ireland

Four substations connected together with a distributed ANM system to control the amount of the VAR exported parallel into the TSO (EIRGRID) as well as the DNO (ESB) systems.

Power flow control systems in more than 200 points in NPG (Northern power Grid) and WPD (West Power Districts) in the UK. Several locations where the power flow in Wind and Solar farms are connected to these two DNO systems.

The Benefit

The described system has allowed our Customer to accelerate the integration of Distributed Generation site into their distribution network whilst managing the impact that this additional generation has on network operations.

Genesis Controllers

They provide localized independent control of Distributed Generators in response to real time changes both at a local site level and to the network.

Generation Controller

It provides a greater degree of control over both the constraint level and constraint type applied to a particular generator. It also allows for the Distributed Generator to operate in a number of alternative modes assisting the DNO to optimize the management of their network.

Genesis Generation Management Controllers

They allow the DNO to help optimize their network usage whilst assisting Distributed Generators to Maximize their Generation Capacity.

ANM Controller

Adaptive Real-Time network control monitors network status and manages network constraints in realtime.
It offers control for every level of the distribution network by monitoring both generation and load.

ANM controls active devices like:

- On-load distribution transformers.
- Voltage regulators.
- Capacitor banks and generation control systems.

ANM manages:

- Thermal constraints.
- Voltage optimisation.
- Export power constraints.
- Connection Point supervision functions and grid management services.

ANC Controller

The ANC Controller is installed at the grid connection point, monitoring the connection parameters against user defined constraint levels and regulatory limits. If the voltage level rises too high or the generation levels exceed the defined thresholds, the controller constraints the generation until network voltage, thermal levels and generation output are within acceptable levels. The number of constraints is selectable.

The System can operate in full automatic mode, local manual mode or by telecontrol or can integrate as part of a larger ANM scheme. It will default to a fail safe mode in the event of any failure scenarios.

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