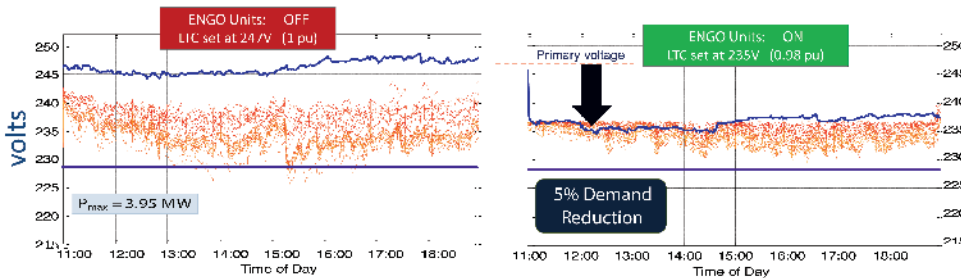# GRID EDGE DEMAND CONTROL
MAXIMIZE PEAK DEMAND REDUCTION AND CVR

Problem: Demand Control is limited because primary assets (Cap Banks, LTCs, LVRs) cannot maintain a consistent feeder voltage profile.
Solution: Grid Edge Demand Control delivers consistent voltage all along a feeder, enabling maximum Conservation Voltage Reduction (CVR).

Key Features

» Consistent, reliable control of voltage and demand
» Maintains tight voltage band on secondary side, all along a feeder
» Real-time monitoring gives voltage feedback for Peak Demand Reduction and Energy Savings

Varentec's Grid Edge Demand Control reduces secondary-side voltage variability, delivering a stable, consistent voltage profile all along a power line, allowing easy coordination with utility assets to achieve maximum peak demand reduction and energy savings benefits. Field data below shows voltage at substation LTC (blue) and at 24 nodes along a feeder, with solution **OFF** (left), and solution **ON** (right). The ON state shows 5% demand reduction and no ANSI violations.

Benefits

» Up to 6% Peak Demand Reduction or Energy Savings – 2X better than conventional methods
» 72% reduction in voltage volatility
» Easy to deploy, no field maintenance, fully controlled by utility operator

Proven Field Results

Varentec's field devices act as both a sensor and a regulator. Data below is presented where Varentec field devices are OFF but acting as a sensor only, revealing significant voltage volatility, and then with the Varentec solution ON, where voltage is maintained in a tight voltage band.
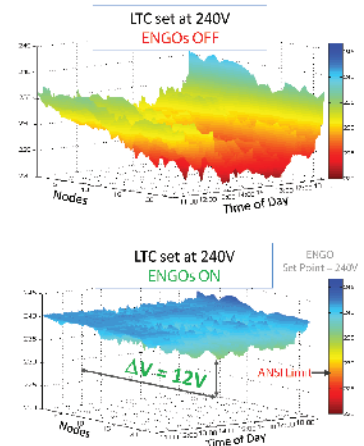

Grid Edge Demand Control

Conventional demand control solutions can reduce voltage by 1-2% without causing ANSI violations. Grid Edge Demand Control achieves a tight voltage profile all along a feeder, enabling as much as 6% voltage reduction in feeder LTC/LVR voltage set point, which in turn enables as much as 4-6% peak demand reduction or 3-5% energy savings in CVR benefits.

Real-Time Distributed Autonomous Voltage Control at the Grid Edge