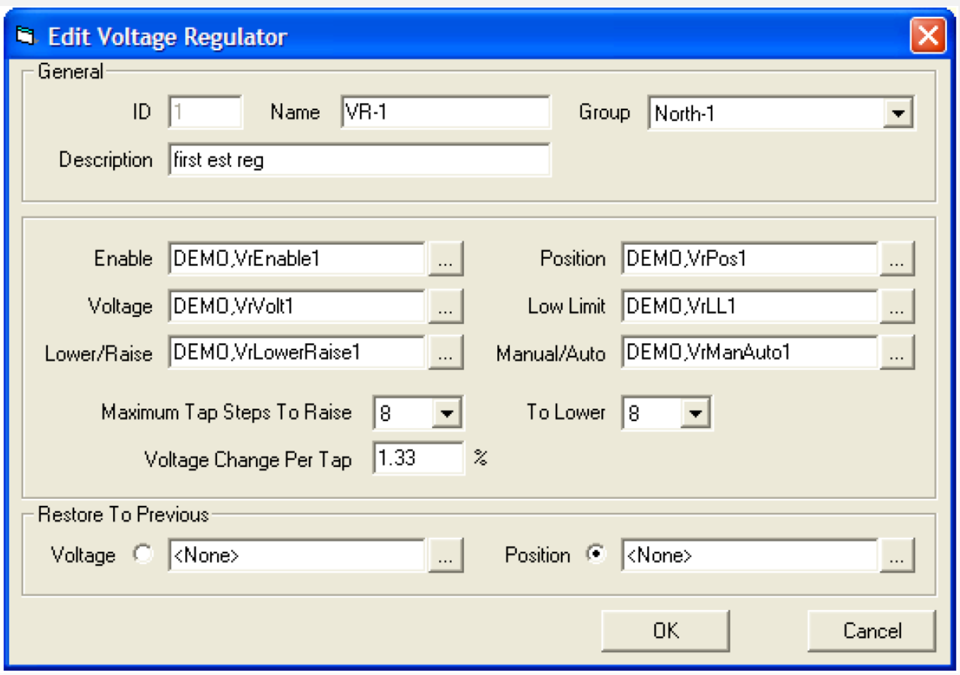
Survalent Technology

SMARTSCADA
SUPERVISORY CONTROL & DATA ACQUISITION

Voltage Reduction

Voltage Reduction in SmartSCADA makes use of a high-level "supervisory" program to monitor conditions on your system and make decisions about when voltages should be reduced. It then uses a low-level "executive" program to perform the controls necessary to accomplish this. The goal of this 2-part architecture is to provide:

- You implement your choice of supervisory logic using command sequencing, calculations, or any mechanism that will provide the appropriate values in the database points used to control the executive program.
- Ready-to-use functionality at the executive level, where the details follow a standardized algorithm to reduce, maintain or restore the voltage.



Voltage reduction is achieved by the following steps:

- The subject voltages in your system are controlled by voltage regulators or tap changers that are represented by controllable points in the SCADA system. Regulators to be considered for control are additionally represented by Voltage Regulators defined in the voltage reduction database.
- Voltage regulators are organized into one or more groups. All voltage reduction decisions are made on a per-group basis. For this reason, all regulators in a group should be operating at the same "nominal" voltage (although their actual measured voltages will of course vary).

more

- Typically, a supervisory command sequence will determine when it wants to reduce voltage for one or more of the groups, based on conditions in the power system. The command sequence sets the values of database points that instruct the executive program to reduce or restore the voltage for the desired groups.

- The voltage reduction executive program reacts to each group's input point by issuing controls to the appropriate database points to manually decrease or increase the position of the voltage regulator.

Each voltage regulator is represented within SCADA by a collection of database points, including:

- a controllable point to put the regulator into Automatic or Manual mode (only in Manual mode will the regulator be manipulated by the Voltage Reduction program)

- a controllable point to Raise or Lower the regulator step by step

- an analog point to indicate the regulator's current position number

- an analog point containing the measured voltage being controlled by that regulator

Each regulator's operation is also constrained within limits tap position and voltage limits that you specify.

2600 Argentia Road • Mississauga, Ontario • L5N 5V4, Canada
www.survalent.com • 905.826.5000 • sales@survalent.com