

OpenAVC

Automatic Voltage/VAR Control

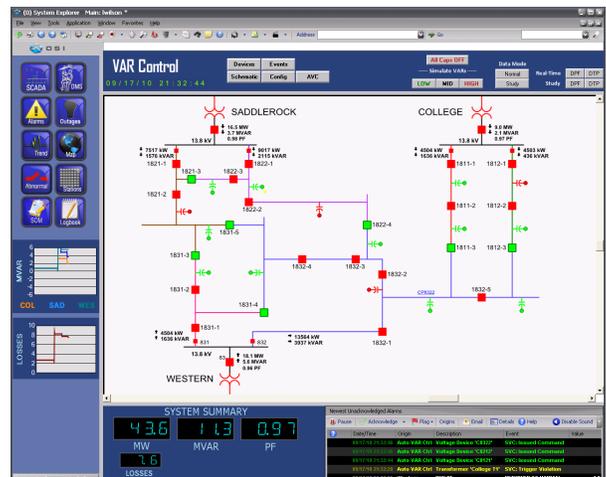
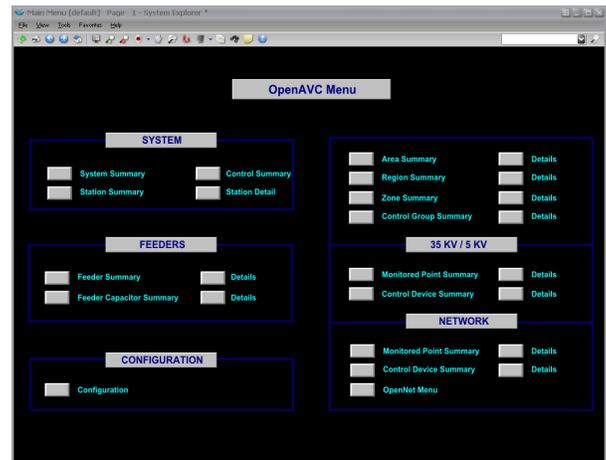
Inefficiently designed or operated power systems will not survive the competitive market of tomorrow.

Controlling the voltage profile and the reactive power flow of the network has always been very important for dispatching centers. Almost all loads are designed to operate within some limited range of voltages. And any unnecessary excessive reactive power flow will cause additional active power loss for the system. Installation of additional reactive devices might be necessary to alleviate local voltage problems. For efficient operation of the power system, its voltage profile and reactive power flows must be controlled intelligently and by experts.

The Automatic VAR Control (**OpenAVC™**) implements voltage and VAR dispatch strategies. These dispatch strategies span the transmission, sub-transmission and distribution networks. At the transmission and sub-transmission levels, **OpenAVC** can couple with the Optimal Power Flow (OPF) application, it can issue proper set points for the controllable devices that minimize the overall loss of the system, while keeping all VAR-related system parameters within reasonable limits. Even for the systems that cannot run OPF, **OpenAVC** provides good set points for the controllable devices. Operators can always intervene the closed loop control, if the system is not operating at Normal State.

OpenAVC can also manage voltage, VAR and Power Factor levels for individual feeders in a Distribution Network. Voltage, VAR and Power Factors can be monitored on each feeder in real-time and control signals can be issued to available capacitor banks to keep the monitored signals with desired range.

OpenAVC is a real-time application of the **monarch™** platform. **OpenAVC** monitors and controls branch power factors and bus voltage magnitudes by controlling reactive sources. It can interact with other **monarch** subsystems. It monitors the status of all VAR and voltage resources periodically and calculates the control set points. In the closed-loop mode of operation, the application sends proper control signals via SCADA control interface to the controllable devices.



In ever growing power system networks, the job of the dispatching center operators is becoming more and more complicated. Most of the complexity is due to the vastness of the data processing involved. All accumulated information from the RTUs should be analyzed and proper action command must be issued correctly and in, usually, a short period of time. **OpenAVC** can relieve the operators of the tedious task of processing huge amount of data by monitoring the voltages and reactive flows and proposing proper control actions. Under Emergency operation, also, it lets the operator focus on the parts of the network that require immediate attention by reducing the amount of data processing for him or her, without the risk of missing important voltage or VAR violations.

Product specifications in this document are subject to change without notice.