

Load Control

The Load Control program is designed for Electric Utility peak shaving operation to improve the Utilities load curve using three kinds of optimizing automatic control strategies. A strategy can be defined as one day, or seven days with Holiday and weekend schedules. Each strategy includes a group of defined devices connected to an electrical load, as the group devices are shed or disconnected the Load Profile is changed to meet the desired set point the operator has entered. The operator entered set point value triggers the strategy into automatic operation, signaling the first group of devices to Load Shed in sequential order. Because one load group may not have enough controllable load the user can define multiple load groups to achieve the desired outcome.

As seasons and weather change each Utility needs the ability to have different Load Strategies to match present conditions. The user can define up to 32 independent control strategies for operating with present weather conditions. The ability to accommodate weekend and holiday schedules is included in each strategy definition table. The three kinds of Load Control strategies include:

- **Automatic Voltage Reduction:** Using a voltage reduction controller connected to the regulator or LTC the AVR strategy will send a command to make the VRC device make a 1.5% reduction in voltage to match the programs request. The VRC controller offers 5 steps of voltage reduction with 1.5 % increments for a total of 7.5%.
- **Residential Load Management:** The EOS master interfaces to both types of LM technology, VHF Radio Controlled Switches and Power Line Carrier injection. The Radio LM strategy has two optional definitions. **Group Control** of devices like Hot water heaters, air conditioners, electric dryers, irrigation motors and any other electrical load. **Individual Control** of radio switches allows you an override of any controlled device, individual capacitor switching, meter connects/disconnects, etc. For Power line carrier LM, EOscada interfaces through a LAN or serial interface connection to a stand-alone computer.
- **Emergency Load Shedding:** A strategy for emergencies can be defined to open and close circuit breakers or reclosers and shed bulk power under extreme conditions. The strategy can shed commands through the RTU or Radio LM subsystem.

Power Factor Control

Designed as a separate program from Load Control the PFC program allows you to create a unique strategy for controlling capacitors. You can define two types of groups.

- **Substation Controllable Devices** can be defined with groups associated with an RTU. This means the strategy is issuing commands through the RTU to control the substation capacitors. The capacitors are switched in and out according to the operator's set point value he has entered into the system.
- **Pole Mounted Controllable Devices** can be defined in groups associated with pole mounted RTUs or radio controlled LM switches. The same VHF radio that broadcasts LM signals can send capacitor on/off commands providing an added capability for a very small investment.