

## Systecon's *SCRIPT* Variable Speed Chiller Plant Control Sequence

Systecon's *SCRIPT* variable speed chiller plant control sequence utilizes a Wire-to-Water Efficiency (WWE) approach to sequence and control the chiller plant. Systecon developed Wire-to-Water in 1984 to determine pump selection and pump sequencing to optimize performance of the pumping system. WWE analyzes the performance curves of each component to determine sequencing points. Systecon has expanded WWE sequencing to all chiller plant components including chillers, heat exchangers, chilled water pumps, condenser water pumps, and cooling tower fans.

The chiller plant *SCRIPT* controller actively displays plant kW/ton in real time. The kW/ton will be used to make the control decision on how many chillers are to be activated. A wet-bulb driven control sequence will optimize the tower fan operating temperature and entering condenser water temperature that best utilizes the compressor and cooling tower fan energy to give the best overall plant efficiency.

The chilled water pumping system will utilize VariPrime™, variable primary pumping. Using VariPrime and WWE will determine the correct number of chilled water pumps to operate at specific flow points to optimize energy efficiency. VariPrime will modulate the system bypass valve to provide the optimum flow through each chiller while maintaining required minimum flow. VariPrime will function simultaneously with the WWE chiller control to provide seamless sequencing of the chillers without variations in capacity. VariPrime pump speed control will utilize critical zone reset to minimize system pressure while at the same time providing the proper flow to all parts of the building.

*SCRIPT*, Systecon's Remote Integrated PLC Technology, components are of the highest quality to minimize or eliminate yearly calibration. *SCRIPT* fast acting PLC control allows for monitoring and controlling all equipment, eliminating the hunting found in many commercial grade HVAC controls. *SCRIPT* controls are UL, ETL, and OSHPD listed, providing the quality assurance needed for today's chiller plant controls. *SCRIPT* utilizes premium instrumentation, including platinum RTD temperature transmitters, temperature compensating differential pressure transmitters, and dual-turbine or magnetic flow meters.

