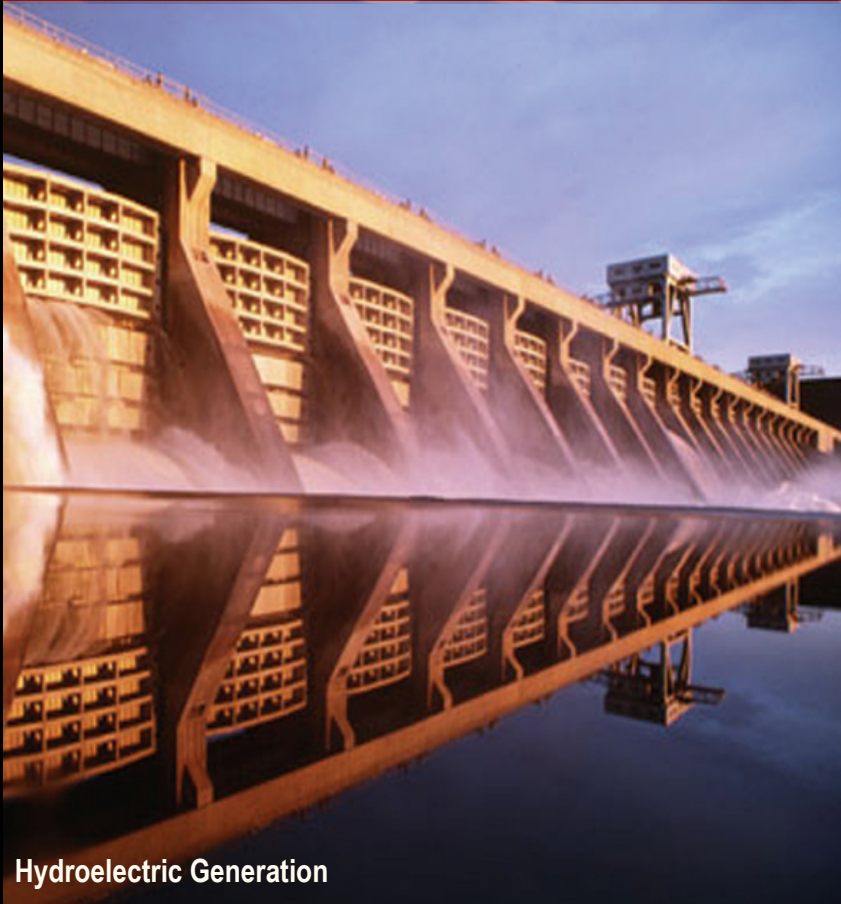


PLANT CONTROL SYSTEMS



Hydroelectric Generation

MSE-Tetragenics' Plant Control System (PCS) provides complete monitoring and control capabilities for a wide variety of industrial applications such as hydro power plants, utility substations, communications towers, water and wastewater plants, energy management systems, and industrial building security systems. The PCS provides reliable and cost-effective control for all facets of generation and switchyard operation including voltage control, VAR control, breaker control, generator start/stop, synchronization, pump control, and multi-generator load control with optimization...all in one integrated system. Water-related controls include pond level, tailrace level, minimum flow, headgate position, spillway level and fish ladder control. Plant security and dam integrity monitoring are also available. The PCS sequence control features allow you to customize the system.



Substations



Wind Energy



Water/Wastewater Treatment

Experience

Reliability

Control



PLANT CONTROL SYSTEMS

Control

Experience

Reliability

Total Plant Control

From automatically determining the most effective generator loading to remote breaker control to pump control, MSE-Tetragenics' Plant Control Systems (PCS) provide complete, reliable control of every phase of plant operations. The PCS responds automatically based on pre-set parameters while continuously monitoring and protecting critical equipment at one or multiple plant sites.

G-Series Plant Control System

The G-Series PCS offers many advantages including enhanced CPU performance, a real-time operating system, multiple interfaces and protocol support, easily expandable input/output (I/O), WTV-32 human-machine interface (HMI), and integrated sequence of events and alarm queuing.

G-Series Board: The G-Series board boasts performance up to 73 million instructions per second (MIPS) and supports up to 9 on-board serial ports with a serial port expansion board and additional peripheral ports. On-board software enhancements include the MC3000 SCADA Master in real-time Linux, dynamic port assignments, built-in communications analyzer, DNP 3.0 and Modbus protocol support, ability for remote downloads, Ethernet connectivity to remote clients, a built-in web server, and one version of code for the entire system.

Operating System: The PCS includes RTLinuxPro as an Operating System to provide flexible and scalable run-time software and proven reliability.

Architecture: For robust and proven design, the PCS uses VMEbus architecture, which provides dynamically selectable address and data path, bandwidths up to 80 Mbyte/sec, rich interrupt structure and protocol, multiprocessing capability, and user-defined I/O. The structure is processor independent with open architecture and long-term viability.

MC3000 Master Control System

Our MC3000 Supervisory Control and Data Acquisition (SCADA), PC-based Master is a key component of the PCS. It can control multiple plants within a system comprised of hundreds of Remote Terminal Units (RTUs), and perform disk-based operations such as historical data archiving. The software is configurable and customizable to meet the needs of any industrial process. And when used with our WinTetraVision 32 (WTV-32) HMI, operators have a flexible, scalable, and easy-to-use interface to control plant processes.

Following pre-programmed settings, the MC3000 Master initiates plant parameters, which operators can monitor and control locally or remotely using the WTV-32. The WTV-32 gives the operator graphical displays of critical plant parameters and overall system status. The system time stamps all alarms to a millisecond and stores them in a log file, which is used for reporting and analysis. Operators can view data locally and/or remotely using the WTV-32 or a web browser over a secure network.

... HIGHLIGHTS ...

- Complete System Control – load, spill, pond, VAR, volt, power factor, VAR balancing, generator start/stop, synchronization, speed sensing, water use optimization, Automatic Generator Control (AGC), unit scheduling, and vibration zone exclusion
- Monitor communication status between the PCS and intelligent devices
- Millisecond time stamping
- Communicate data and control commands between devices with different protocols
- Industrial flexibility
- Dual hot-standby system
- Real-time data acquisition, remote control, and intelligent alarm notification from multiple communication devices
- Security
- Scalability - 128 polling ports and 236 RTUs per polling port*
- Complete control system
- View/control functionality/up to 32 workstations
- Auto generated text screens
- User defined graphic screens
- Command center - 24/7 network monitoring capabilities
- Water optimization
- Internet/Intranet ready
- User-defined logic/control sequences
- Reporting by exception
- View and control I/O points instantly, anywhere on the network
- Ethernet polling
- Windows-based System Database Editors
- WWV, WWVB, and GOES time synchronization
- Graphical trending of real-time and historical data
- I/O Sources to connect to virtually any industrial automation control device
- Automatic e-mail alarm notification*
- Audible and call out features
- Automatic ping alarming
- User-defined alarm levels
- Custom modules
- Historical data archive for storage, viewing, analysis*
- 24/7 Technical Support
- User documentation
- One year warranty

* MC3000