CHEMTROL® 230 ORP CONTROLLER

ENGINEERING SPECIFICATION (06/2005)

WATER TREATMENT AUTOMATION SYSTEM

1.01 SUMMARY

A. A **CHEMICAL AUTOMATION SYSTEM** shall be supplied for continuous monitoring of water ORP/Redox (Oxidation Reduction Potential) and for automatic control of chemical feeders / Ozone generators.

B. The system shall be a **CHEMTROL® 230 DIGITAL ORP CONTROLLER** of current design and production model manufactured by **SANTA BARBARA CONTROL SYSTEMS** of Santa Barbara, California or a technically equal system certified by the specifying agent as capable of providing equal performance for all operating functions.

C. Exceptions to the specifications shall be described in detail together with a list of ten (10) similar operating systems of same model and manufacture, with the name, address and telephone number of operating personnel.

1.02 SPECIFICATIONS

A. CHEMISTRY CONTROLLER

1. The controller shall be microprocessor based and shall feature digital readout of ORP. All instrumentation shall be enclosed in a watertight non-metallic cabinet with a clear window cover. All operating controls, calibration adjustments and safety alarm settings shall be accessible from the front panel.

2. The control system shall automatically activate the appropriate chemical feeders in order to maintain the Oxidation-Reduction Potential (ORP) of the Free Active Sanitizer level within +/- 10 millivolts (mV. Setpoint selection shall be by direct dialing on scales calibrated in mV of ORP.

3. The control system shall include the following feed modes: off, manual, automatic and proportional. The feed rate in the proportional zone shall be adjustable by the changing the bandwidth of the zone from 1% to 100% of the setpoint value.

4. The face panel shall feature three-digit LED digital readout for ORP units.

5. Visual and remote alarms shall be activated by high/ low ORP or sanitizer conditions and by the overfeed safety timers. All alarm settings shall be adjustable from the front panel.

6. All electronics shall be mounted on a single enclosed, plug-in PC board and shall be coated with a corrosion-proof coating. The pH sensor shall be potentiometric, sealed combination glass electrode.

1.03 OPTIONS

1. 4-20ma – A programmable 4 – 20 ma signal output for control of Ozone generators and or chemical feeders with 4-20ma.

2. HPORP A ¾ inch High-Pressure process ORP electrode for industrial grade applications.

B. WARRANTY

1. The controller electronics shall be covered by a standard manufacturer warranty of five (5) years. Special extensions of more limited warranties shall not be considered acceptable. All sensors will be covered by a standard one (1) year warranty. Other parts shall be covered by their own manufacturer's warranty.

2. The manufacturer shall supply a complete instruction, operating and maintenance manual.