

## **Equipment Utilization in Wastewater Treatment Facilities**

Caution must be observed when using computers/hardware equipment in a wastewater facility or other facilities that may have Hydrogen Sulfide present. Hydrogen Sulfide ( $H_2S$ ) is a very common and prevalent odorant associated with wastewater collection and treatment systems.  $H_2S$  has the characteristic “rotten egg” odor and is corrosive to metals such as copper, lead, iron, cadmium, etc.

Since current computer/hardware designs use copper, lead, and other metals, they are at risk for corrosion. For example, if copper is exposed to hydrogen sulfide, a reaction will occur that will most likely produce copper sulfide. Copper sulfide has a black appearance that can flake off the base material and is electrically conductive. The electrically conductive properties of copper sulfide pose a reliability risk as a conductive particulate that can cause an electrical short in the unit. Other types of metal corrosion in the unit can result in intermittent or opens connections in the electronic hardware.

Therefore, if equipment is to be installed in a corrosive environment with Hydrogen Sulfide present, the installation of the unit must ensure that the unit is properly protected from potential corrosive materials. If the computer hardware is improperly protected, the life of the unit will be shortened and warranty protection will be compromised.