



# DO YOU HAVE SCADA?

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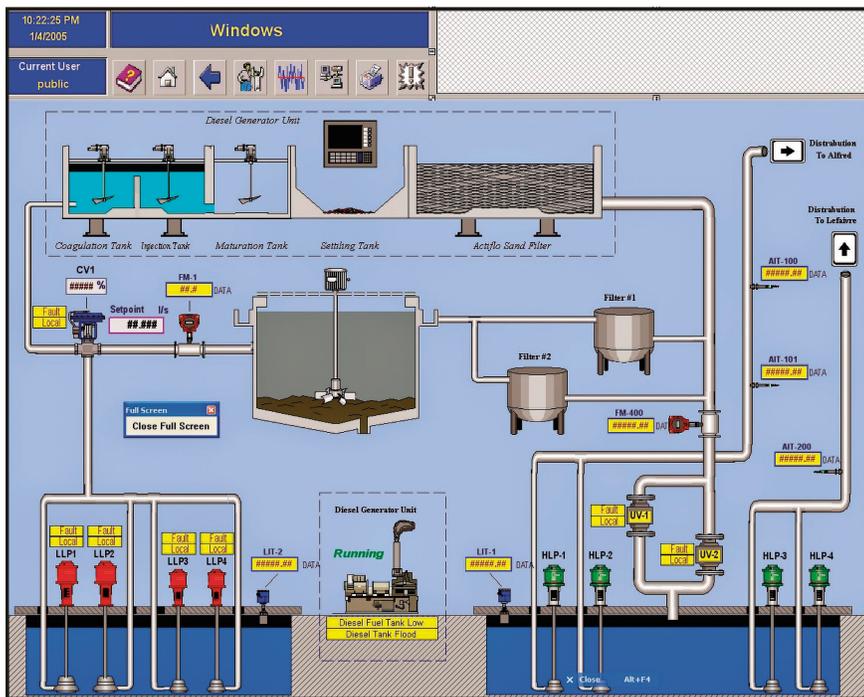
A brief history, it's the early 70's the Clean Water Act was going into effect. Many communities began building their first wastewater treatment plant. I am sure at the time they were considered the best available technology. Operators would start each day with a walk thru verifying the pumps, blowers, etc., had survived the night. If all was well, then hour meter readings were recorded. Then time to read the chart recorder and calculate overnight or daily flows.

Alarms. Back in the day there usually was a light, bell, or horn on the side of the building, connected to the wet well high-water and other various alarms. It was supposed to light up and klaxon would sound. However, most systems sooner or later failed and no longer functioned. When operational there was no external notification. Eventually, some places invested in an auto dialer that would call an alarm or dispatch center notifying operators of a situation at the plant. As technology improved, pagers were utilized (remember this was prior when cell phones were not readily available). Smart phones were a thing of science fiction movies.

What were some pros 90's modernization offered? Hour meter readings and flow readings are automatically recorded allowing the Operator to concentrate on other duties. Accurate hour meters, instantaneous system alarms (still no dial out), ability to change blower speeds and set pump and blower timing, etc. Remember, it is still important we keep doing routine walk thru & inspections.

Since the previous installations there have been quantum leaps in SCADA technology. Vastly improved system control; remote computer access including smart phone apps. Operators can remotely make water and wastewater process changes, view equipment speeds, etc. Not only can the operator receive alarms, but they can also acknowledge them and remotely reset the equipment.

There are many more advantages impacting water and wastewater, too numerous to mention. Along with the pros, there are cons as well. Our prime concern, we have exposed our data and systems to the outside world. Recent events in Florida are a glaring example when things can go wrong.



In Pinellas County Florida, a plant operator monitoring a water plant in the Tampa Bay City of Oldsmar, noticed breaches starting Friday morning. The operator noticed someone was controlling his computer system's mouse, opening various functions on the screen and changing the sodium hydroxide (Lye) in the water supply from about 100 parts per million to more than 11,100 parts per million. Fortunately, the plant operator noticed the increase and immediately reduced the concentration to a safe level!

The downside for small systems, over reliance on automation without close monitoring. Use of older software versions (O/S no longer supported by manufacturer), single passwords for all systems and failure to routinely change passwords, just to name a few. These are issues we should all be conscious of, in an effort to maintain a safe and secure water and wastewater infrastructure. 💧💧

Fast forward; it's the early 90's. Plants from the 70's are being modernized; many are installing first-generation SCADA!