Data Acquisition the Key to High Performing Water Treatment

We can't count the number of times it's happened – we get a call from a customer whose system is down and they need a Service Engineer ASAP. We juggle jobs to get one of our guys on site and his first question to the operator(s) is "How was the system behaving before it crashed?" More often than we can count, he's met with a blank stare.

We understand that these days everyone is doing more with less, but a minimum amount of operating data can speak volumes when it comes time to troubleshoot a water treatment system.

For reverse osmosis systems, most system providers (at least the reputable ones) will introduce the concept of normalization, i.e., referencing system performance back to a baseline condition and taking into account variables such as temperature, TDS and pressure on flow. This data, when entered into a software program designed to trend the operating performance of the system, is critical when it comes to trying to diagnose why the system is doing what it's doing and not doing what it's designed to do. Even better, the software is free! If your system provider doesn't furnish it, your membrane manufacturer has it available for downloading from their website. Transferring the daily readings from your log sheet (you are keeping one, aren't you?) to the normalization program only takes a few minutes once you get familiar with the software, and having this information available to the Service Engineer can save hours of on-site time – and your money!

While ion exchange systems don't require normalization, a small amount of operating data logged on a routine basis is extremely telling when the Service Engineer is standing in front of your equipment trying to diagnose a problem. For instance, he can tell if the problem occurred suddenly or developed over time. The critical parameters that can help direct him to the problem are records of conductivity, flow rate, and throughput volumes. These don't have to be daily readings, but the more frequent, the better. By the way, when was the last time you checked your regenerant flows and concentrations? Or your backwash flow rates when the water temperature changed?

One last point – we frequently find that no one even remembers the last time the instrumentation was calibrated. In order for the data to be useful, it also needs to be reasonably accurate. Flowmeters, conductivity meters, and pH meters in particular need calibration periodically in order to be of use. A routine preventive maintenance program for your instrumentation needn't be elaborate, just consistent. And someone needs to be responsible for getting it done.

If you'd like some assistance with your data management and/or preventive maintenance programs, contact your Process Solutions, Inc. sales representative. We would be happy to help!