

Q&A:

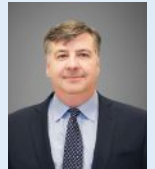
Maintaining Assets, De-Risking Operations

WF&M Discussion with John Flaughner
& Jonathan Cato, USG Water Solutions



FLAUGHER

EDITOR'S NOTE: ADDRESSING ONGOING MAINTENANCE COSTS FOR UTILITY ASSETS is becoming increasingly critical. We caught up with John Flaughner, president and chief executive officer, and Jonathan Cato, chief operating officer, of USG Water Solutions to chat about a variety of industry trends heading into 2024. We touch on proactive asset management, best practices and considerations for reducing maintenance costs and some of the drivers for installing AMI and upgrading metering and other infrastructure. We also discuss how some of these challenges are critical for small, rural systems and how a sound maintenance approach impacts water quality.



CATO

WATER FINANCE & MANAGEMENT:

What trends are you seeing, if any, across the U.S. water sector with regards to how utilities approach maintenance of assets that need regular servicing or upkeep? Are more utilities adopting proactive asset management?

JOHN FLAUGHER: We do see more of a movement toward total asset management as a way for utilities to manage water or wastewater plant assets – that is, periodically inspecting assets, taking them offline and doing appropriate testing vs. running to failure. One thing we have seen recently that we didn't in the past is the impact that asset management and integrity has on water quality. The integrity and operational efficiency of an asset is not only important from an availability and

cost standpoint, but degradation of asset performance can also negatively affect water quality.

JONATHAN CATO: All of your equipment and assets will eventually fail. Avoiding premature run-to-failure by regularly inspecting and testing assets, doing thorough condition assessments and making any proactive repairs up front will go a long way on the back end.

WF&M: When water or wastewater systems install new equipment or upgrade assets, what are common maintenance mistakes you see? Do they tend to underestimate continuing maintenance costs?

CATO: I can give a few examples. For a treatment plant, for instance, 75% of it is

probably built out of concrete. Concrete is touted as maintenance-free, but there's nothing further from the truth. Concrete is not maintenance-free – especially in an aggressive environment like a water or wastewater treatment plant, it will degrade over time. I think people underestimate that, and proactive maintenance like coatings will help extend the life of such an asset.

On the technology side, we have customers that were early adopters of advanced metering infrastructure (AMI) who were using a 2G network. Well, 2G is no longer supported, so the only way they can read meters now is through manual reads. That is something that needs to be taken into account during a technology upgrade. Eventually telecommunications companies are going to progress and go to 4G, 5G



and now 6G is probably next. Those are things that service providers and municipalities can't control. Software upgrades are also related to this. Once you buy a software system, it's going to need to be updated eventually – those can be costly if you don't plan and budget for them.

WF&M: What are other challenges that asset management can address, particularly in reducing long-term maintenance costs?

FLAUGHER: One of the things I think is very difficult for municipal water and wastewater plants, is to model out what their operating conditions are going to be over a 15- to 20-year time frame to match the lifecycle of the asset. Most water/wastewater plants were built in the 1950s and 60s, and they're running at a higher flow capacity now, and in some cases, they're running at a flow capacity beyond what they were designed for. Plants need to look to the future and determine what their operational load is going to be, what their operational stresses will be and how they will incorporate new technology and equipment. I see utilities readily open to third-party expertise because they're realizing the complexities they have right now,

and they are interested in de-risking operations.

WF&M: What challenges, if any, are you seeing with small utility systems regarding infrastructure maintenance and rehabilitation? Do small systems in particular struggle with getting technical assistance or project management expertise?

FLAUGHER: About 85 percent of water systems in the United States have less than 10,000 taps, and most of our customer base is in that scope. They have challenges with limited access to expertise, innovation, cash, people, and tighter regulatory requirements. It is more difficult to run these small plants now, especially when utility personnel don't have access to the things they need to do it more effectively. I see more risk in smaller cities due to those operating challenges they have.

There are great engineering firms that handle large capital projects, there are great design firms, great regional general contractors, many strong suppliers for various components, consultants for how to put it all together and software engineers to put the bow on it. The challenge we see is that while everyone has their piece, there's a lot lost in translation when it comes to design, procurement, installation, product launch, engagement and software integration to get the total solution. When there's a problem, who do you go to?

WF&M: Are you seeing strong market demand for AMI? What are the biggest drivers?

CATO: I would say it's our fastest growing business line in our small- and medium-sized customer base. Lack of resources and having to do more with less personnel seems to be the biggest driver. People are retiring and nobody gets out of college and wants to be a meter reader. A lot of meters in the ground for small, mid-sized systems are 15, 20 or 25 years old and require manual reads and are probably not entirely accurate. AMI seems to be popular because of its remote monitoring capabilities, its ability to identify non-revenue water and its improvement in customer service. But

it's not plug and play. You may not need to deploy personnel to read meters, but you still need personnel to manage the AMI software and components.

FLAUGHER: You can't overstate access to personnel. It is getting more difficult to access people who get into water/wastewater plants as a career. Older plants need to run at capacity quite often because of demand. As a result, utilities are drawing a correlation between water production, water losses and non-revenue water. Between non-revenue water, limited access to personnel and customer service, those seem to be very strong drivers for utilities to at least look at AMI.

WF&M: I also want to ask about storage tanks, since I know you have some experience in this area...what challenges do utilities encounter in storage tank maintenance? Although they're visible, are these assets often overlooked? What should utilities know about minimizing costs for these assets over time?

CATO: Again, avoid the run-to-failure approach. Say you build a brand-new tank with a new coating system. That coating system may last 25 years, and then you have a huge CAPEX bubble that you need to deal with to renovate the 25-year-old coatings. Our program involves annual condition assessment, fixing things that need to be fixed, and maintenance periodically every 10 years or so rather than waiting every 25 years.

FLAUGHER: This approach avoids gradual degradation of the asset – extending the capital life of a \$3-10 million asset so instead of it lasting 15-20 years, it might last 50-60 years or even more. Again, I think it's easy to overlook the gradual decline of assets and the impact that has on water quality. These plants have water characteristics that you're trying to change – pH variances, solids levels, alkalinity, contaminants, temperature, chlorine levels – that all impact how corrosive the water is. Based on the control of that water chemistry, you might think a water tank is in good shape and water quality is okay. But in reality, it can slowly degrade. So, there are taste, odor, quality, and asset integrity issues that influence the slow degradation of a tank. 🌟