Reflections on Water – PFAS in Focus: Forever-Engineering With Trent Stober, HDR
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Dave Ross:

Welcome to Reflections on Water. I'm Dave Ross.

Anna Wilderman:

And I'm Anna Wilderman. Welcome to the third episode of our three-part series that we recorded out of Missouri this summer. We had a great opportunity to attend and participate in the Missouri Water Summit, and we had a chance to speak with some local folks on the ground about how they're grappling with PFAS issues. So far. We've presented interviews with Chris Weiberg, who provided a great perspective from the state management side, and we heard from Jay Hoskins who brought a really interesting perspective from the wastewater side. Dave, why don't you tell us a little bit about the interview today?

Dave Ross:

Today we share an interview with Trent Stober, who is the Utility Services Director at HDR, an environmental engineering firm. So when dealing with PFAS, I think the focus tends to be on the policy makers and the decision makers who are shaping the regulatory landscape, but the real work gets done at the design, build, operate level. So in our interview with Trent, he provides some interesting perspective on how consultants are advising their water and wastewater customers on risk management, and other aspects of the PFAS developing regulatory framework. So I think folks are really going to appreciate this perspective and let's roll a tape.

Anna Wilderman:

We want to welcome to the podcast Trent Stober. Trent is the Utility and Management Services Director for water at the national consulting firm, HDR. Trent, welcome to the podcast.

Trent Stober:

Thanks for having me, Anna.

Dave Ross:

Hey, Trent, it's good to see you again, and yeah, we were just in Missouri, your neck of the woods at a Missouri Water seminar. Anna and I spent a lot of time chatting with some state regulators, federal regulators there, local utilities. Throughout the course of the conference, PFAS was a huge topic, and I'd love to spend some time talking to you today about your perspective as a consultant to the local utilities, and get your perspectives on what's happened in the PFAS space. Why don't you provide context for our listeners as to what it is that you provide as a consulting engineer for water utilities, and then focus a little bit on what you're doing in the PFAS space for us.

Trent Stober:

Yeah, sure Dave. HDR is a large architectural engineering firm. We serve a lot of diverse utility clients in water, drinking water, wastewater or stormwater, reclaimed water and so forth. So obviously, PFAS right now is a topic that is at the forefront of utility managers across the country. The properties that make it so useful for personal products, for industrial products and so forth, also make it persistent and pervasive in the environment. So that brings a unique challenge and really one that crosses all of these utilities. It's the ultimate, I would say, one water contaminant because it's in our source waters, definitely our stormwater systems, our wastewater systems and so forth. We're starting to see some of these interconnectivities similar to... You're familiar with lead and copper rule revisions where, I think, we're bringing utilities together to talk about some of these common issues that connect to all these different utilities.

Dave Ross:

You mentioned lead and copper as an example of developments that utilities have to grapple with. Let's start there for a second. PFAS is a huge issue. Everyone's watching what the federal government's doing. The states are all taking their own initiatives. The one thing as a consulting engineer that I think would be really valuable for people to understand is, as regulated entities have to grapple with updates to the lead and copper rule or other major development, stormwater. At the same time they're watching what's happening in the PFAS space, and whether or not it's new drinking water regulations, or potentially new biosolids regulations, or stormwater management, or NPDES permitting. So how do utilities grapple with that from your perspective?

Trent Stober:

Definitely right now, the most dynamic time that we've seen through the course of our modern utilities. We've seen our share of regulatory drivers over the history, but you couple the regulatory issues around lead and copper with PFAS, with nutrients, and then the other external drivers and internal drivers that utilities have in terms of climate impacts. The resiliency not only to those, but also to our finances that were evident through COVID, our workforces, the cost escalations we're seeing in our capital programs, more focus now on social issues as well, including environmental justice, equity and so forth. We've just got this dynamic set of drivers, and it really is a point where we need to take a strategic focus and balance out all these drivers and risks for a utility, so that we can take next steps in our investment strategies and our service strategies and so forth.

It's a challenge, but I think it's one that we have to really look at our community priorities, where we have the most risk. Definitely health is one of those. When we think about the lead service line issues that we have in many of our utilities, PFAS is another one. Unfortunately, that risk bucket is pretty full based on the exposures that we have on, probably this shirt that I'm wearing right now Dave and the dental floss that I used last night. Then when you look at all those other exposures, the risk that's tolerable from a Safe Drinking Water Act, Clean Water Act perspective doesn't provide that much. But I think at some point, I'd be curious to hear from you, there might be a time where we have to step back and balance out all of these different risks and unintended consequences that potentially could come from those.

When we look at the carbon footprint of some of the treatment technologies that we have to deploy to remove that from drinking water, whether it's granular activated carbon, reverse osmosis, you mentioned biosolids. There's potential for losing really a sustainable and abundant source of nutrients for agricultural producers. All of those potentially take funds away from other

important programs, whether that's removal of lead service lines like you mentioned Dave, or some of the other environmental improvements that we need for nutrients, asset management and so forth. So it's really a complex time for our utility managers to sit back and think, "How are we going to prioritize our capital investment, our operational investments, and figure out a strategy that helps us move forward."

Anna Wilderman:

Trent, you hit on something there that I think is really interesting, or I should say really important. And that is, that when there are so many competing priorities, there's a risk that some priorities fall by the wayside.

Dave Ross:

Yeah, actually as this conversation's been happening, my mind has been drifting towards a phrase, integrated planning, right? As water and wastewater utilities grapple with the need for stormwater investments and important drinking water investments, and also on the wastewater management side, of multi-billion dollar liabilities and infrastructure needs facing this country. In isolation, if someone says, "You need to spend a hundred million on lead line removal." The answer is, "Yeah, of course." But if the next day, we're talking about we need to spend a hundred million dollars on climate resiliency and stormwater management, the answer in isolation is, "Well, yes, of course, " but ultimately those converge onto one rate pair and to one city and one municipality. Trent, as your clients are coming to you with these challenges, how do you work through those challenges, and what do you guys as a consulting engineering firm, what kind of perspective or advice were you giving?

Trent Stober:

Yeah, and absolutely one of my points that I wanted to discuss was integrated planning, which you were well-versed in at the agency. It's amazing to see the bipartisan embracement of that. I mean, when you look at the Clean Water Act Amendment that codified integrated planning, I think we had 10 dissenting votes in Congress, unanimous in the Senate, and President Trump signed it in a pretty dynamic time from a political perspective. So I think it's really the approach to take a more holistic view of your needs, Your community priorities are absolutely... I think one of the linchpins of that to make sure that we design a plan around those community priorities. I think it's a great opportunity, also, for our utilities to step up and become a little bit less out of mind, and explain the benefits that our utilities provide to our communities, and build support for the capital needs that are there.

So I think the practical steps of that is really, would be built into element two of the integrated planning process, to understand your existing systems and your information. So we advocate for a proactive system-wide monitoring approach to get more tactically oriented versus strategic, to really understand where our sources of PFAS are, what we can do about those programmatically, particularly through enhanced pretreatment programs and so forth. I think strategic communications in the PFAS arena are paramount, and I think that OSO is one of the pieces within integrated planning that's really important. Also, my experience with integrated planning, we need to be in lockstep with our state regulatory agencies. They have open communications so that there's no surprises from the regulated side or the regulator side. I think PFAS is a perfect example of that, of where we recommend to our utilities to get engaged with their state like you did with the Missouri Department of Natural Resources and Metropolitan and St. Louis Sewer District, again, engaged with that.

So we understand and are part of the solution for where the states go with their chemical action plans and so forth. We think the federal government's got all these resources to pour into issues like this, and there, the agency is just as manpower-limited or womanpower-limited, as you mentioned Anna, as the rest of us. So they're also balancing priorities. So to see the potential for delays in things like the biosolids risk assessment just due to shortage of bandwidth is a challenge. So I think you're seeing more and more states and local governments picking up the ball on some of this and trying to move forward with the program.

Anna Wilderman:

Hey, Trent, you mentioned something I want to come back to because I think it's really important. In most places in this country, we turn on the tap and we get clean water, and most people don't have to think about it twice, but what we're talking about now and living through now, you said utilities have historically really felt invisible. But now, your clients and customers are really coming to the front of the stage here and taking on a new responsibility and obligation to communicate with greater imperative, with the communities that they serve. If you can talk a little bit about how you've been advising your clients with respect to the EPA's Health Advisories, for example, and is there a way to talk about that in context with sort of EPA's effort on an MCL for PFOA and PFAS that we expect to see this fall, and what are your clients doing in response?

Trent Stober:

It's obviously a challenge when you've had the former guidelines and so forth that are several, what, four orders of magnitude higher, five orders magnitude higher than the health advisory level. So there was a point in time, obviously, we were running, evaluating data and we were below the 70 nanogram per liter threshold, and so we're like, "Okay, we're below." We were benchmarking actually wastewater utilities and so forth against their peers with readily available data to say, "Okay, in this situation, where do we stand within the range of utilities to see... Hey, do we have some potential sources that we really need to focus in on?" I think that was fairly successful. Now we get hit with this level where basically if you have a detect, which we'll have detects, you're several orders of magnitude higher than the health advisory level. So that's a challenging communication for our utilities.

So we need to advise that, if you're concerned about your drinking water, then here's the steps that you can take to mitigate that. I don't believe that necessarily bottled water is a solution as well, but from some of the data that I've seen, and there's substantial amounts of PFAS in some of the bottled water as well. So it's really a challenging discussion for sure. I think being transparent and open with our consumers or customers and so forth is paramount. I don't believe that it's an effective strategy to eliminate sampling programs because of fear of what we're going to find. Because this issue is, first and foremost out in customer's minds, and so we need to be proactive and monitor and assess where we're at, and take the measures that we can.

So interesting one that we're going down the path of right now is, when we look at pretreatment programs and local limits for metals and so forth, we evaluate the domestic sources and that kind of establishes our baseline. And then we allocate how much metals or whatever you can give to your industry to protect your wastewater system treatment systems, your surface waters and so forth.

We're going to take that same approach for PFAS, I'm really interested to see what that is going to tell us in terms of how much PFAS do we have and just what you and I produce out of our

homes every day, because our utilities don't generate PFAS, right? We can take some actions and work with our industries to discharge those, but when it comes to our domestic sources, that's you and I, that's a societal issue. That's not a utilities issue to be able to regulate that. So I'll be very interested to see what those data look like when we get some of those. I don't know if you've seen some of that or taken that approach, Dave, or seen some of those data from back in your days in the agency.

Dave Ross:

I think you're spot on, Trent with a focus on... You're right, the wastewater, drinking water utilities are passive receivers, and their job is to improve what they get. The domestic source, us as individual consumers, I think is a very significant issue that quite frankly, this country doesn't grapple with. It's always someone else's responsibility, not my own, but I think source control through the pretreatment program on the wastewater side will be critical. I think, there's a fairly significant load probably coming to our wastewater plants from the pretreatment side that I think, if we're going to prioritize investment, that's where if I was a utility, I would be looking. What technologies are you seeing that utilities are beginning to talk about? Can you just give us a window into... You said if you have it, you have to grapple with it? What are you seeing as the emerging technologies that people should be thinking about?

Trent Stober:

Yeah, we're working with several of the utilities that have been significantly impacted by industrial discharges, source waters and so forth, and what we've gravitated towards is granular activated carbon as an effective means from our interactions with some of the activated carbon manufacturers. They're really focused on diligence in terms of regeneration, and making sure that the PFAS compounds are destroyed from the regeneration process so that we're not just transferring it to another media in the air and so forth. So we've gravitated towards that. I think there's some promising technologies on the pre-treatment side, particularly, we've been piloting on landfill, leachates and so forth, which are common source of some technologies to separate out the PFAS compounds, and we can get some really substantial... And some of our colleagues in the industry as well have had some substantial removals and 90 plus percent of PFAS removal. Of course, this is just separation, so it's air flotation and so forth.

So we still have a PFAS matrix to deal with, but at least we've concentrated that into a form that we can now work with. So I think there's some promising technologies. I think, like you said, Dave, I think from the industrial pretreatment side, that's going to be where we can do the most good and the most benefit. So I think that's where the municipal programs really need to focus. Stormwater is going to be a challenge, particularly with the aqueous, firefighting foams and so forth. So that's still one that I think we'll have to see where that goes, for sure, since that's really a BMP-focused approach.

Anna Wilderman:

Well, Trent, that was really a great explanation. Fascinating to hear what folks are doing on the ground and looking ahead to what may be coming. So appreciate your insights and your thoughts on that, and always enjoy hanging out with you and appreciate you joining the podcast.

Dave Ross:

Hey, thanks, Trent. Good seeing you.

Trent Stober:

Yeah, thanks a bunch.