

Periodic Review Sub-group Meeting on Sampling Requirements of the AOSS Regulations

May 17, 2017

10:30 a.m.

109 Governor Street, Richmond, Virginia

5th Floor Conference Room

(12VAC5-613-90 and 100)

Members: Anthony Creech, Curtis Moore, Joel Pinnix, Mike Burch, Doug Canody, Jim Bell, Nick Noble, Dwayne Roadcap, Karri Atwood

Introductions: Joel Pinnix, PE, represent ACEC; Curtis Moore, OSE; Karri Atwood, VDH; Anthony Creech, VDH; Doug Canody, VDH; Jim Bell, Bio-microbics; Nick Noble with Orenco Systems.

The group reviewed the current sampling requirements. Doug Canody put together a diagram, hand-out, demonstrating the requirements of the current regulations. The diagram showed the process flow of the sampling requirements, including lab and field testing, and the pathway and decision tree in order to determine the types of samples taken and the decision to be made. The red diamonds on the diagram represent decision points. Blue blocks are a process or something that has to be done.

Jim Bell asked what the Department's goal was in the 2010 legislation requirement. Mike Burch stated that the intent was for a sample to be taken within 180 days, however, he knows of one engineer who would test on day 1, plain water in it, just water and collect the data. He also stated that he had trouble getting the data, was told to go to the local counties, had to put in FOIA requests, had to constantly put in FOIA requests. Also stated Loudoun does enforce it, there are more of my systems in Loudoun, I'm not opposed to testing as long as we make use of the data; conversely, led to believe some systems trying to make their numbers look good, nothing in regulations about the O&M provider taking the sample, sometimes owner and manufacturer take early sample for better result. Based on conversation, Karri wrote the following interests on the flip memo:

1. Access to sampling
2. O&M provider taking sampling
3. Taking a sample to early, nobody in house, regulation poorly written and abused and not a tool for VDH. The spec home, the model home, surely we can come up with some language about 90 days within occupancy.

Nick Noble noted the data has to be used in a meaningful way, if not using it to bring system into compliance, then we need trigger for enforcement. Without enforcement, the data is meaningless, would like to continue to collect the sample, but it needs to be meaningful.

Joel Pinnix noted that as a licensed operator, only O&M operator can submit data online, you can get a test or sample your own system however the only person who can report is the licensed operator. He also noted the need for education at the local level.

Conversation proceeded about how to ensure data is collected after system actually put into use, need awareness of when system goes into operation. Would like operator to collect sample after 45-90 after operation, how do we create a trigger event? Spec house not occupied for years, as a manufacturer when does a warranty start? Warranty beings from date of installation. Doug noted no connection between warranty and enforcement and occupancy permit comes from building office.

Joel noted that a manufacturer will hire him to provide 2 years of O&M as part of the sale of the system. It was noted that you can't pull up historic data, unless you are using integrated 3rd party. When you are entering in the data, it is time consuming, enter files and enter all the data into the report. Doug noted the problem with continuity, how do you educate the owner? Loudoun County has their data linked, start-up visit with 180 days, initial visit that triggers everything. When we created the regs, you need to collect more data, new VENIS would be a problem, a lot of people went to 3rd party provider, that's important to understand, when is a property due for a 5-year sample, what day and year it is due. Taking over older system, sampling is related to the data collection and dissemination, the sampling can be worthless. For the original question, very few operators 10 years ago, single family discharging systems and treatment units, they thought just because it smelled good, it was operating ok. Joel noted the technical advisory committee before the emergency regulations were enacted, voted 15-2 to not to sample single family residences, field performance was satisfactory.

A request was made from the group for the sampling data that VDH has collected. Joel stated he wanted to get rid of sampling unless data demonstrates its importance.

Nick said he filed a couple of FOIAs for all the sampling data, and the data shows patterns of treatment units not meeting limits, from enforcement and compliance lens, it shows value.

Jim said that he had not seen the data and that he was bothered by the fact that sampling data is as good as the technology and the person collecting the sample. Also there has to be confidence that the sampling procedures are followed, correct location, correct process, sample preserved correctly.

Nick noted it was always difficult to ensure that sampling procedures were being followed correctly; however, not sure it's worth throwing baby out with the bath water. When you look at hundreds of sample data, those things get smoothed out, there will be 1 or 2 that is three times the standard that tells you something, it is not just a sampling error.

Nick also noted that if more enforcement takes place, the industry would react, manufacturers would make better systems, support our markets. If sampling data collection can be done well and used appropriately, it's a net win for the industry.

A conversation about the cost of sampling and the operators' time and expense in collecting the data began based on a complaint Dwayne received from a citizen. Curtis noted we should not write a regulation based on cost but instead on need for sampling.

Jim and Nick talked about requirements in other states. Nick said from a 30,000 foot view, in Oregon, a rule was implemented to sample system once every 5 years, randomly select 20 systems, if more than 20% out of compliance, re-sample, then the manufacturer could get involved. In North Carolina, systems have to be sampled quarterly to show compliance level for general approval, and then sample once per year for BOD, TSS, fecal at minimum. In Rhode Island, quarterly samples every year, and once per year

for nitrogen system compliance. Some states require no sampling. In Massachusetts, owner pays for four samples per year, the department gets all of the data, and however, they have done no enforcement. One of the major impediments to maintaining confidence in the industry is that industry has to provide solutions on economic scale. Systems can treat for recharge and irrigation with myriad benefits; however, there isn't public confidence to install on a wider scale. Industry and regulatory community has to work together to find a way to sample systems, get meaningful data, and take enforcement when necessary.

Joel talked about that as a system designer; there are rules that stipulate minimum size requirements, 4BR house, 600 GPD system with 600 GPD treatment system. He recently met with elderly couple getting 40 GPD, system is starving, so if you pull sample there is no odor, but it's always a little bit cloudy, BOD pushing 30 or a little over, not much you can do to that system when there is a disconnect between sizing and getting engineering performance from those systems. It's going into the ground, so he doesn't believe there is an environmental or public health risk, not discharging to stream, creek or ditch. Sampling that system, with nonconforming result, what does that tell you? No action item, everything is working, but there is not enough food in the mixed liquor.

Nick noted that manufacturers test the unit to get into the market with specific effluent targets. These systems met sampling requirements on 18-20 systems, based on state requirements, at some point. If sampling data demonstrates 40% of sites not meeting limits after put into operation, then it would be a health issue, it starts to impact economics of owner, drainfield clogs prematurely, that can be a big expense. I think the performance issues, always outliers, have to come to manufacturer, but where there is abuse, such as the operators not doing their job seriously, then they must be addressed by this committee. There are widespread issues, don't want to throw baby without the bath water.

Joel said that data was not reliable, no confidence in the data, and you can't regulate confidence in the data. He stated he disagreed with VDH's approval of manufacturer approval, long history of failure, getting a number that is relatively meaningless. He believed the technical advisory committee got it right, can pull sample of effluent, you can smell and look and know that it is working properly if other components working. Getting a sample won't tell you anything as small single family residences, not a lot of adjustment to be made. Nick noted disagreement with this point but observed that is why the workgroup is working on these problems.

Karri asked Nick and Jim if they had seen other states that do enforcement well. Nick replied that he had not; however, enforcement shouldn't be a dirty word. There is huge reticence to enforce by regulating community, because they have been beat up by industry with no political will to back decisions. Nick said he believed it was a linch pin for our industry. The only way to support effluent limits is to have data to base decisions upon.

Conversation about enforcement and VDH's current approach of plus one, meaning that before any enforcement is taken there must be a bad sample and another factor. Jim talked about the Massachusetts model that within 180 days service provider checked things to see whether the unit is in compliance, and if it is no additional sample taken for another five years. Massachusetts in 1992 did an evaluation of sampling for BOD, turbidity, DO and pH, and if system does not fall within the parameters, then a sample is pulled. It's not decreasing the compliance criteria, eliminating the cost of collecting a sample, it's not the lab fees, it's the logistics that cost money.

Nick noted that field indicators were not a bad way to go, there is some nuance, if you get 90 BOD on 10-10 system, the plus one enforcement rule is not good. There has to be a component of education and knowledge, too. Possibility of drafting a regulation stating that if field indicators were off more than standard deviation, then resample.

Curtis noted that utilizing field indicators and only sampling if not within parameters would allow the possibility of eliminating 5 year and 180 day sampling events, but would be a step forward to look at the parameters every year and only a bad result would trigger a sample. It would give operators more practice in taking samples during their annual visit. Joel reiterated his point that field observations and being on site is important, and the technical advisory committee got it right

Dwayne said he would send data.

A discussion occurred about operators and renewable operating permits with O&M manuals that require more than yearly visits. The group discussed how enforcement is necessary to ensure good samples were being taken and that currently there is little to no enforcement for O&M. Joel said he saw little value in trying to regulate more enforcement for O&M visits that are more than yearly as there is currently no enforcement for the yearly visit. Group also discussed the requirement of recordation of notice of an AOSS system as provided in the Code of Virginia and how to make homeowners more aware of their O&M responsibility.

Dwayne and Karri said they would draft some regulatory language for the group to look at based on the Massachusetts evaluation utilizing field indicators and only sampling when items were outside the parameters.