

Attendance: Colin Bishop, Vincent Day, Rick Blackwell (alternate for Raymond Freeland), David Fridley, John Harper, Kelly Vanover (for DCR), Peter Kesecker, R. V'lent Lassiter, Robert Lee, Joe Lerch, Curtis Moore, Valerie Rourke, Till Timmins. Allen Knapp and David Tiller, VDH. Visitors: Reed Johnson, Orenco; Chris Beatley, Premier Tech; and Joseph Carson.

Meeting was called to order by Chairman, Vincent Day, at 10 am. (See Appendix I for agenda.)

Chairman called for approval of the June 2010 and February 2011 meeting minutes. Valerie Rourke noted one change to the February 2011 minutes.

Minutes adopted with change.

Chairman Day introduced a new member from DCR, Kelly Vanover, who will be replacing Bill Keeling.

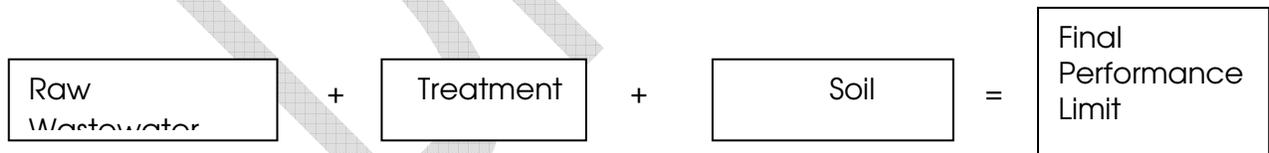
The Goal of this is to solicit recommendations for addressing stakeholder comments concerning the replace Alternative Onsite Sewage System Regulations. Mr. Dave Tiller, OEHS, will facilitate the meeting. Chairman Day turned the meeting over to Mr. Tiller.

Dave Tiller will have staff lay out the issues and then the Committee will discuss to get options. Issues for discussion were drawn from the sticky dot exercise from the previous Advisory meeting and from internal VDH discussion regarding the most controversial issues raised by comments. Dave Tiller noted that it's not necessary to have consensus for this process. VDH is looking for input and recommendations

Discussion Topics

1. Alternative pathway to performance

Allen Knapp set up the discussion. VDH staff met with VSPE on this topic of how the regulation deals with treatment works and performance and arrived at a concept for consideration.



← Practice of engineering → = defined in reg

Questions that were raised from this concept by staff are: What should the final performance limit be; how would permitting work; how would you review; how would you monitor for this performance?

If had a 'magic probe' then would know for certainty that you met performance, but don't have that so how would we know. The model does consider that if it's not

possible to monitor for a particular constituent, then could monitor upstream and set an intermediate compliance point generally after all treatment but prior to the soil. The compliance points would be set by the design engineer subject to review by department.

Question: why is gray water separation not addressed. It would help with P and other. Jim Pyne noted that there is a problem with plumbing code, we start with mixed wastewater – would need to be separated upstream.

Vince – will bring it back to him – this is a good discussion, but not today.

Bob Lee– still need to address treatment regardless of whether its grey or mixed.

Dave Tiller: With this alternative pathway, are there concerns?

Bob Lee– not so much a concern – another alternative that you could have a secondary standard prior to discharge to soil and don't have to do soil sampling. So midpoint would be a regulatory setting.

Valerie Rourke– We could move the compliance line to before the soil

David Tiller – how would that be different than what we currently have in the regs which requires sampling after all treatment but prior to application to the soil?

Rick Blackwell – with current regs we have 2 levels of treatment. What if an engineer wanted to design a TL 1.5 system which does a 45/45 but can't do that easily with today's reg. One would need to compensate for higher BOD levels – maybe expand soil treatment area – but would be designing on hydraulic and organic capacities. Some soils have a much greater capacity than others.

Dave Tiller – between treatment and soil an engineer may design a 1.5, but after analysis of soil, he would meet criteria of TL2 or TL3 etc.

Bob Lee- for standards you'd have to look at groundwater standards now that are already in effect for the Commonwealth– not what we're typically looking at

Colin Bishop– Arizona has this and has a spreadsheet to set loading rate, if going to allow flexibility on this design, then need to limit to engineers

Dave Tiller– what does Bob mean by groundwater standards

Valerie Rourke– if it's a direct discharge to groundwater (gw), then has to be met prior to application to soil with gw standards in regs

Bob Lee– have to address what the standard is in the soil for water. Once it leaves that soil treatment area, no further treatment, so when it leaves that area, it has to meet whatever the requirements are.

Allen Knapp– can we put numbers on that

Bob Lee – can look at gw numbers for those

Vincent Day – are we looking at other constituents, particular constituents?

Bob Lee – N and fecal coliform are obvious

Colin Bishop – hydraulic and organic loading affects area and depth affects pathogen loading- so need to know final performance. In Arizona – they went with total coliform of zero and TN of 10 mg/l

Rick Blackwell– Septic tanks release all ammonia and so septic tank effluent meets nitrate 5 mg/l limit

Colin Bishop, Bob Lee –disagree, no it'll convert to nitrates rather easily

Jim Pyne– at this point, all of the Chesapeake Bay is going to TN so might as well go with it.

Allen Knapp – in proposed regs there is ≤ 2.2 col/100 ml fecals, TN ≤ 5 mg/l, in Chesapeake Bay Watershed TN ≤ 3 mg/l, for direct discharges to gw

Dave Tiller – how should compliance be verified?

Joel Pinnix – start with statutory language – meet the standards of systems otherwise permitted pursuant to the regulations- there are 2 standards in regulations – secondary effluent and septic tank effluent. So if there is an interim point, have to meet one of those two – intent was not to create a system that is less protective of systems otherwise permitted. Engineer doesn't have to meet limit, but can do better. Identifying groundwater quality standards at the end of treatment works is more nebulous. Not truly groundwater so not appropriate to use groundwater standards. Have to look at what is the groundwater quality for septic tank effluent with 18 inches of soil, pit privy with 24 inches of soil, secondary effluent with 12 inches of soil below. Assume all 3 are equivalent. At the point effluent touches ground water, what is the gw quality standards at that point?. TN of 5 mg/l is not right and it's a lot higher. Fecal coliform is a lot higher than 2.2, but BOD is probably low. That's the real crux of this performance standard. What are those numbers for systems otherwise permitted. Look at studies being performed in last 10 years. Reneau's work showed septic tank effluent and secondary effluent and it showed that for fecals <200 was 50/50. We're tasked with rationalizing and defending whatever numbers we come up with. The effluent quality is set, what is the gw standard for systems otherwise permitted pursuant to the regulations.

Bob Lee – statute says groundwater standards – they are set in groundwater standards in regulations

Reed Johnson – Noted that the first 2 boxes can be controlled by humans, but soils cannot. It's too late if monitoring in soil. We can control up to point where it hits soil. Do you have look, feel, touch, etc to determine what the soil can do.

Valerie Rourke– not debating whether we should go there, if we are, it works well for larger AOSSs perhaps and maybe come up with a different system for small AOSSs. For large, reasonable to go with gw monitoring for these large systems and it would make sense. For small AOSSs, more rational to do intermediate monitoring. Maybe split the approach. Look for more alternatives for larger. For smaller – look for more convenient, simpler approach for smalls.

Dave Tiller – could you have at midpoint something other than TL2 or TL3 – could you have something less?

Yes

Curtis Moore– often not going to get 30/30, have to look at soils and back out what the interim concentration should be. You might be able work backwards to set it. Soils are not just a discharge point like a river – they have a finite capacity – have to look at hydraulic limit first and then consider others – that’s where the art of soil science comes in.

Bob Lee – Could have septic drip and LPD that have an interim compliance point of septic tank effluent. A mound might fall into that too.

Allen Knapp - in our discussion with VSPE, two things were apparent – in the discharge program, the interim compliance point (IC) is the compliance point. In this model, who sets the intermediate compliance point and is it enforceable? In discussion would be set by designer subject to review by the department and collectively arrived at. ? enforceability of that IC. If a permit limit does not appear in a regulation, can VDH enforce upon it? We’d have to come up with some other methods. The proposed reg hardwires the treatment and soil. This model would break that tie.

Colin Bishop – Should erase concentration and come up with mass loadings. Can default to removal efficiencies (prescriptive) then give engineer flexibility to come up with other pathways to get to final.

Is VDH the final decision maker on whether it meets final performance or not if a project goes in front of the Engineering Design Review Panel?

Allen Knapp–Panel makes recommendation, VDH makes final call.

Joel Pinnix – already have prescriptive methods through SHDR. VDH has ultimate authority to write permit. Appeals board and Circuit Court are the only two that can override permits.

Colin Bishop – Asked of engineers: is your interpretation that only engineers can design under this reg?

Rick Blackwell – GA tasked VDH to write performance reg for engineers, not non-engineers

Joel Pinnix– in the regs all plans have to be stamped pursuant to 163.6 so logically only engineers if no statement then it’ll be reviewed in accordance with SHDR

Allen Knapp – if we were going to do this, would the Adv committee suggest we keep Part II as is and add this? So would have 2 performance pathways, Part II as is and this new performance pathway.

Colin Bishop – aren't AOSEs currently designing TL3 systems? Yes. So current section II has prescriptive elements and engineers feel constrained by part II?

Rick Blackwell – being evaluated prior to soil takes away options. Need true performance standards. Intent was to set a performance standard. Tell us end number and they'll figure out how to get there.

Vince Day– how much does performance change with EPA and TMDL

Jim Pyne– yes, target is moving though don't really know where gw standard is going to wind up, need to anchor that down. Fairly sure can design a system to meet what ever we need. Problem is soil will be arguing point. Don't know exactly what it does

David Fridley – Joel brings up a good point. Pit privy not the same since not liquid carried wastes, but for others, we presume that the prescriptive is "good enough". This scheme is how to get to "good enough" without a cookbook. At this point, not sure it's appropriate to use septic tank and secondary effluent. Need to be clear where those numbers are coming from.

Rick Blackwell– concept of what is good enough – when we establish what those are – it works forward and backwards. We've made a lot of assumptions over the years of their performance. Once we set the standards for "good enough". Data will determine if septic tank effluent (STE) will meet it, may affect future standards for STE and prescriptive set of regs. May need to go back to those systems

Pete Kesecker – as a soil scientist he would love to know what's happening in soil box, but as a soil scientist and operator, it's not fair to ask people to bear cost and variability of what's going on in soil – until we have a cost effective way to monitor.(the magic probe), not fair to homeowner to bear that burden. The only realistic way to test in a cost effective way is after treatment unit.

Rick Blackwell – about \$50 – no different than pulling a IC sample. But can't always get an insitu sample so VSPE recommends having intermediate point. Insitu gives us most accurate data as to whether we're meeting standards. With sampling at the end of a treatment unit, there is an inability to validate performance

Curtis Moore– one of the final performance goals that needs to be addressed is how long does that system have to perform like that – must have checks and balances on how long it lasts – engineers say tell me how long do you want it to last and they can design it to that – life cycle costs

Allen Knapp– What does committee think about this idea?

Jim Pyne – we'll be reacting to what the 4th box is

Allen Knapp – when there is an intermediate point, set by the designer. Could be set by reg, but if we do that, then we go back to hard wiring the relationship

Bob Lee – can have one case that sets the standard in the reg and then have a second or a final performance standard in the permit to get a number at IC that is legally enforceable.

Colin Bishop – prescriptive designs are fairly straightforward, performance is harder, what's the regulatory review standard, if sampling 1 or 2 times a year not enough – would be interested in regulatory review standard – most critical piece is what's the monitoring plan and it needs to be in permit

Joel Pinnix – last box (soil) in terms of fecal, one study not definitive, but other studies and regulatory guidance, DEQ limits fecals to 200, Alternative discharge limits are 200, 100 to dry ditch, DEQ reuse – for 200 for no contact, BOD and TSS – 30mg/l; reuse 30 mg/l; discharge 30 mg/l so can look at research and studies from other agencies too. EPA TMDL model – 8.9 lb/person – seeing 75% attenuation. Looking at that. Gives you 2.0 pounds per person per year. Have to tie back into secondary treatment and 12 inches of soil

Bob Lee – final performance falls into different category than those presented by Joel. If reuse, different standards with different categories

Reed Johnson – working with EPA, MD and PA, EPA is very happy with end of pipe performance for compliance monitoring. MD – 12 samples composited – same should work for other parameters as well such as N

Allen Knapp – posed the following questions – reserving the right to change my vote based on final performance standards and monitoring schemes, I would recommend that BOH add this to the regulation with the IC set by designer in addition to what is already there. Total 10 out of 14 in agreement

For those Opposed – erase 2 middle boxes and have mass loads; if don't address mechanism of how to evaluate and long term life how do you effectively manage permit process; oppose it because have to get rid of prescriptive part and have ONLY performance; monitoring plan, O&M plan, permit sets IC and final limit

Bob Lee – how many designs would fall under this?

Joel Pinnix – all of his

Rick Blackwell would do all his too

2. General approval testing and evaluation

Dwayne Roadcap set up the discussion: VDH got a lot of comments on section 70 – General approval and listing procedures. Starting with the assumption that VDH is and

will be in the business of listing as generally approved, etc. , VDH got two kinds of comments : making changes to existing procedures and adding new parameters for a listing and evaluation procedures. Comments about making new procedures; field testing N; testing treatment works, not device; field tests for TL 2 systems. With regard to current procedure, if NSF 360 system and data from 360 shows that it meets VDH pass/fail, then shouldn't have to do testing in VA. VDH should create committee/expert panel that would evaluate treatment technologies; remove the 5 year windows for retest. If mfg has already tested in VA then shouldn't need to retest. Seeking influent testing and should be waived when can't get it. Keep fecals as part of pass fail criteria as it speaks to robustness of treatment.

Dave – any comments

Rick – talking about testing of treatment units for evaluation of treatment units? Product approval

Dave – some discussion about treatment works too

Bob – does not think VDH should be in business of testing and should rely on NSF or other 3rd party – the resources that it takes aren't here

Joel – agrees with Bob – if want to develop an approved list for descriptive design ok, but does not belong in performance based reg. Also there is no specificity in regs (shall develop)

Dave – The proposed sunset date of 5 years to be reevaluated

Bob – monitoring is required for all systems so from that data could show a problem and at that point could reasonably bring the question back up not just to us, but to NSF and to manufacturer

Vincent – what do we do now? Concern over lab samples, protocols, mistakes, etc. might lead VDH to a wrong conclusion

Bob but if overwhelming evidence of skewness then could make a statement on the status of an approval

Joel – echo Bob's comments 100%; VDH has a checkered past on running protocols; statistics is questionable – Dr. Edwards from VCU and confirmed that methodology for pass fail was not appropriate. Engineers have the ability to design treatment works and they are designing in a black box and testing beyond the pale of others. Limits ability to provide solutions to clients – need to rethink it- where is it needed? – for prescriptive design (90% of design in VA) need it. But when it comes to performance based designs and engineered systems don't need it.

Kelly Vanover– for stormwater BMPs, DCR maintains a clearing house of BMPs of specific devices and get outside sources info for the listing – they don't do the testing.

Curtis Moore – is there a procedure for de-listing? If it doesn't do what it thought it did.

Kelly Vanover hasn't seen it happen – the ones that make the list seem to perform as advertised

Curtis Moore– if not inherent – if you got data that says the NSF system does not work, then need a mechanism to kick them out. Theory of sampling was to determine what was working and not working in the field.

Bob Lee– one concern – when you run into generic EPA sand filter – not preapproved – should be a means to list those –

Bob Mayer – argument – needs staff capacity to review generally accepted practice even for deemed to approve – if we get too far away from prescriptive design

Dave Tiller– would an independent review committee be useful?

Bob – not just review, but need protocols and how to review it. Loading, peaks, etc (testing protocol)

Rick – start with concept, run calculations to model that reactor, create an equation to performance criteria, support your equation with testing, then go back and tweak it. Can predict based on house occupancy. Can increase loading etc. most treatment units can't meet 0.2 lb/person/year. Testing only verifies the equation. If a manufacturer can't come in to VDH, with equations, then shouldn't come into commonwealth. Then that can be evaluated. Most of the NSF testing is way short of testing in VA – load is less and time is less. He can project out if unit can meet it

Bob Mayer – how would you wrap the mound into it? Has an engineering standard but can't sample in field

Reed Johnson– NSF 40 is a good starting point, but been proven that what's done at NSF is not what happens in field. Same with NSF 245. Example Hoot – barely made 50 in field even though NSF showed 95% removal. Florida ATU study – systems not meeting standard 29%. 58% not meeting – all NSF systems – West Virginia and other studies with high % not meeting standard.

Colin Bishop– small doses of 70-80 times a day so does not mimic field; whatever protocols, understand what it is and what you're getting with it. Some other states – MN and OHIO – sand filter – generic device approvals – worked with stakeholder groups for non-proprietary – other criteria –

Dave – does the approval apply to prescriptive? Do we need to have something to issue general approval for prescriptive designs?

Bob – all being done for performance approval

Joel – you have a mechanism for enacting regulations and trying to shoehorn it into these regs – should not be in these regs – should be in rewrite of SHDR regs. Talking about a 1000 systems a year and why are we spending so much time on it

Allen – those 1000 systems happen to be in locations that are important to some stakeholders

Allen – adhoc said should have procedure to let units in

Vincent – for perspective – does VDH evaluate now –

Allen - yes through a GMP 147 – TL 2 is linked to NSF 40, TL3 is to GMP 147 – no outside agent that does that so we developed a protocol as an extension of the experimental procedure

Vincent – but an engineer can do whatever anyway right? Yes. So when engineer does performance stuff and does not need NSF testing?

Allen – yes, code unlinks engineers from these approved lists – permits still have treatment levels

Dwayne Roadcap - specific comment was that, manufacturers who have not evaluated units within VA procedures would be allowed to come in within 5-year window to evaluate. Some manufacturers came in, but not through the VA protocol. The regulation says that everyone, even those who went through the VA process, have to re-evaluate every 5 years.

Dave – for mfg that already have general approval – 5 yr sunset – would have to fall back under these regs – comments on getting rid of sunset date and let continue with current approval

Bob – mfg are continuously changing equipment so what was put in 10 years ago so do we need to have something that addresses those changes or will it be addressed by the data that will be collected. Won't the data push the designers to use other systems. So formal listing may not be needed

Colin - NSF only holds list for 7 years so would have to reevaluate even if no changes.

Marcia Degen: are you saying that NSF-40 re-evaluation force them to evolve technology anyway?

Bob Lee says yes. They have to re-evaluate every seven years under NSF anyway. As long as there is access to data, market forces will force manufacturers to change technology.

Curtis Moore – concerns – ultimately decisions are based on price point because real info not there. If something was egregious, if not a gate keeper to kick off if it gets high numbers. We need to look at data.

Dave Tiller– if nothing was done would you support the 5 year reevaluation?

Dwayne Roadcap – comment was that those who have not used VA procedure should be made to do it in VA – so data used from other places not ok. If TL2 list is tied to NSF 40, the closest thing is NSF 360 for TL 3, but no pass/fail criteria

Rick Blackwell – we make a lot of assumptions as to whether these standards protect public health – one is that NSF 40 is adequate for public health protection. We need to create something new that everyone will have to go through for the sake of public health, not economic advantage. Not in favor of regulation, as TL-3 listing products do not treat to 10-10 and TL-2 does not treat at 30-30. Scrap this evaluation and listing process and start over. JP agrees, says that general approval is valid for prescriptive, not for performance based engineered designs. You will not achieve the stated

performance routinely with these off-the-shelf products. General Approval puts the onus on the Department as opposed to the engineer. We need a sampling regime for engineered system, but the rest does not belong in this regulation

Dave Tiller– so you'd be ok for For TL3 testing

Rick Blackwell– No – we laugh at that – TL3 list they don't treat to 10/10, those on TL2 don't treat to 30/30. Need to start over and reevaluate them

Joel – shares rick sentiments – need to get away in the context of engineered systems, from the context of general approval – its valid in the world of prescriptive design. For performance based, its nonsense. If he wants to call it a BOD of 60, then design to it and no general approval for it. If he needs 10/10,he'll not use generally approved system and won't meet that routinely with off the shelf . need a testing regime for prescriptive designs and for performance designs. What we have now is not reasonable testing. If picked off approved list, I just did what you said to do. if more performance based, then need sampling regime for that scenario. Rest falls under prescriptive regs.

Reed Johnson – disagrees – what he sees is that there are 10/10 units that will perform consistently – if installed and serviced correctly (Jim loaded correctly). As an overseer of system – when he sees an system not performing – 99% of the time it's an install problem or improper O&M

Bob Mayer- heard we should get out of testing and should test in state; do have NSF 40 ; if a particular product not making let designer know; future 10/10 can go to ETV to get tested.

Colin Bishop – agrees with Joel that listing is prescriptive and should be in another place – in the prescriptive box. There's a Canadian BNQ, and European union , and other protocols that could be used. In regards to historical – his company invested hundreds of thousands of dollars that he met general approval – no need to retest. If you want more data from other states, can do that, but do not want to start again. Expand the categories so citizens win. Need a VA field test or NSF 360

Dave – Comment: Pass/fail criteria – add back in fecal protocol

Dwayne Roadcap – have implemented so that if you have disinfection – don't have to do fecals

Colin Bishop – table the discussion based on what the fourth box looks like

Jim Pyne– this is half of the issue – what you do with the data and what you do with it.

From operation – the smaller they get, the more volatile they are. Failing due to no fault of manufacturer –due to homeowner abuse – most important is the sampling statistics used

General Notes on Discussion of Testing and Evaluation Captured on Sticky Paper

Ideas

- DCR does no testing for BMPs, relies on outside testing
- VDH should recognize non-proprietary generic designs
- Create a TAC to review non-proprietary designs
- General Approval concept belongs in SHDR
- Formal listing/de-listing may not be necessary if open access to monitoring data
- VDH should be able to eliminate 'bad actors'
- Create reasonable testing regimen for prescriptive
- ETV is an option for TL3

Concerns

- Not a VDH function
- Not in this reg
- Monitoring data sufficient
- Monitoring data may not be sufficient (standard procedures)
- Need only for prescriptive otherwise limits on engineers
- De-listing procedures
- Va using 'wrong' influent criteria (0.2 lb/person/day)
- VDH needs a way to evaluate engineering standards for treatment works (like mounds)
- Bench tests do not predict real world
- VDH's 'checkered past'
- Std 40 not the right one
- Retesting not fair to those who have already testing in VA
- Add Fecal coliform back to Pass/Fail

3. Program Management

Dave Tiller - What is the significance of sample results? What action needs to be taken when they do not comply?

Bob Lee: VOWRA proposed that if standard was not met, they take a 2nd sample within 90 days. If still not satisfied, then compliance plan is initiated and becomes part of the permit.

Jim Pyne: Data handling is going to be overwhelming. It could cost millions of dollars

RB: what are we using the data for? Are we evaluating the systems as a whole or are we evaluating the actual system in the particular site?

There are policy decision that need to be made. Also, what does the **sample** actually mean to the individual homeowner, and what does it mean in terms of the systems. We need to separate the two.

More testing needed if a sample is out of compliance

John – if we design t12 and the unit is out of compliance, then everything downstream is out of compliance too.

Jim – if using a sample for compliance – is sample QA/QC proper – need to have it all – the first things that lawyers go after is if sample chain is wrong – operator not trained right, etc.

Joel Pinnix – Jim and Curtis are right – At the adhoc committee meeting his recollection that VDH stated that the purpose of the sampling was a data gathering exercise – if written into regulation, it becomes a regulatory issue that Jim just spoke to. Does not think data gathering exercise has any business in state law. But if in there, there will be enforcement issues because local HD will take action against it. Testing debating, resampling, etc to what benefit – if secondary effluent puts 50/50 what happens – lose a little life capacity, but not a lot – if operator out there and effluent is clear – then ok – or opaque then talk to homeowner – if gray then dead. Is a bad AOSS system better than a septic tank system?

Allen Knapp – are you suggesting that we eliminate sampling?

Joel Pinnix – no – just think it through

David Fridley – if an alternative is not functioning it can be worse than a conventional systems because in practice are located in receiving environment that are not appropriate for STE. Use a medical model – on blood pressure meds, gets check, and its higher, just doctor and he need to knows but VDH may be interested in that data as to how that treatment is working so VDH is looking at it in aggregate. If it turns into a criminal enforcement issue, it'll be unpopular.

Peter Kesecker– tends to agree with Joel – if just for data mining then no. if in there – then need to do it right.

If generally approved systems stays, why can't it be up to operator's discretion to sample or not.

Curtis Moore– solution – write into reg that it is not a compliance issue for homeowner so that no action can be taken against homeowner because have other tools to go after operator, etc. Curtis noted that a VOWRA member and operator, Terry Inboden– was able to correct situation based on samples – couldn't tell it from the look of the sample – need a balance that op permit not be pulled, need chain of custody, and, need to know that it's working though

Bob – purpose for within 180 days sampling – at 180 days, the system could be tweaked so that it could operate for who was living there. Point was to see how it was operating at that point in time. After that, is the operator able to do what he needs to do. Finger pointing results with no one taking responsibility. Need the data to ensure that the bad actors get fixed. Compliance plan could be used. don't need to go to jail – get something done – need a plan what do we do with the out of compliance numbers.
Dave – step A is resample?

Bob – VOWRA said 90 days to get back to fix it. Some owners are not going to want to pay for operator to come back.

Rick – primary purpose of pulling sample is to assist the operator to run the plant. A visual sample can do a good quick check. If that's the purpose, then why do we need analytical sample. On stormwater – you do visual and analytical. Good evaluation. Heavier weight on visual and analytical

David Fridley – visual should be done anytime operator comes – if every 5 years, then set some egregious level for resample like 200%

Reed Johnson – this is a self governing industry with no state inspector generally – we could eliminate a lot of problems with non-compliance if we know that system is installed right in the first place. It all starts with simple things like a water tight tank. The problem of non-compliance will reduce tremendously. Also a lot of designers are selling equipment and are service providers. Are they going to tell on themselves? Somebody needs to make sure it's installed correctly.

Rick – designer is supposed to certify that system is installed properly – if not, then the problem is with the designer

Vincent Day – David is on a good path with egregious level – it sets in motion a certain path that gets them back into compliance – not going off the deep end too fast.

Rick – sampling is an art. You can make a determination as to whether you get a good sample or not. Ex – wants to pull sample at 3 pm so will get best sample then – will get great results – go back Saturday morning when washing clothes will be out. So when you get a result – how can you put enforcement action with that degree of variability. For the operator, he can use his knowledge to determine if working properly.

What can we do to make this work?

Rick Blackwell – 24 hour composite sampling. Been tested and argued in courts over whether this works – need composite – would blow the budget for all. Even for mfg, in field testing for a few samples does not document

Bob Lee – to address what Rick just said – say its 110 – they use a lot of grease, or something else until it's too late. Need data to know

Rick Blackwell – medications – can't do anything to help it

Bob Lee – maybe need pump and haul as a compliance option too

Curtis Moore– if pulling a sample won't put you in jail, it should have other outcomes – require to corrective action plan – reevaluate in 6 months – operator be responsible for plan. If nothing works, then VDH will have to move to next plan. Don't put details of plans in the regs.

Allen Knapp – we do that – we send NOAV

Curtis Moore– limit of corrective action and then enforcement if don't follow or execute plan.

Dave Fridley– have a trigger that would put you into a regulatory path of additional sampling

Dave Tiller - Reads 50.D, O&M manual failure to comply only is a violation if it leads to performance requirement being breached. RB thinks that this gives wiggle room if something basic like, keep the lid watertight, is not in the O&M manual.

Bob Lee - there is only one performance requirement for existing systems. That is whether there is sewage on the ground. What are you going to do if it's not operating properly but hasn't failed? A compliance plan is needed.

Allen Knapp - Are you saying that we are powerless to do anything until there is sewage on the ground with existing system? The requirement for secondary treatment is not a performance requirement?

Bob Lee - It's his understanding that nothing can be done until there is sewage on the ground.

Rick Blackwell – various plans are often required within permits – self policing thing having operator go out - if during inspection find deficiency, then gets to write it in the plan of what I want them to do, and it becomes a part of the plan. Corrective action plan. – if he sees environmental deficiency can write it into plan

David Fridley – for bob's example of disconnected blower – gets 3rd category of radio button – can't see it as being able to hit homeowner for it as we define it as 30 day average. Will never ask anyone to do a 30 day average.

Joel Pinnix – 30 day average out of proposed regs – HD is creative enough to come up with a hammer when needed. Got O&M standards, permits, manuals, retroactive based on E regs.

Curtis Moore– 25 year old septic LPD with no O&M manual. Who creates it some are just for treatment unit and not for whole system

Peter Kesecker– under 50D put failure to comply with operator instruction to correct systems.

Bob Lee – access is an issue- a number of systems not accessible – homeowners have not allowed inspections – may want to put in regulations – having operator have appropriate access. Had 3 levels of compliance – it met def of failure in SHDR; not operating properly; minor problems; no problems. Same 55 out of 350 were out of compliance second year, but new ones took their place so 350 each year.

Allen Knapp– two things: 1. Whether or not sewage on the ground is effectively the only performance requirements for existing systems. 2. Intermediate compliance is problematic because, if we call them violations, Health Department's could go out and start issuing NOV's for stuff like cracked lids. It could get absurd. Instead of calling it a violation, we can call it something else and authorize the Department to develop a compliance plan.

Bob Lee – term normal operation – could use that – come in with a compliance plan – if don't do that – then go to civil penalties –

Jim Pyne – be careful that you have the resources to do whatever

General Notes on Program Management Captured on Sticky Paper

Ideas

- Separate individual compliance from 'population'
- 'population' sampling should not be in this reg
- Write in reg that one sample cannot be used for enforcement
- Require sample only when operator calls for it (or VDH)
- Allow 'visual' testing
- Set a 'trigger' level such as 200% that requires an additional sample
- Proper installation!
 - More VDH inspections
 - Eliminate private sector conflict of interest
- Don't use samples (grabs) for enforcement for small AOSS
- A certain threshold (or condition) triggers need for 'compliance plan'
- 'Eggregious zone' and 'reasonable' operating zone
- Make operator recommendations mandatory

Concerns

- Data Handling Costs
- Need to develop an @ 180 days compliance plan to deal with non-compliance
- For compliance, sample protocol is vital
- Need to assure that something is done when there is an operation problem
- Existing AOSS only have one performance requirement – no surfacing
- Lack of access to property for operators

Adjourn at 2

Start next meeting with N Discussion

DRAFT

Appendix I

AGENDA

March 18th

10:00 AM – 2:00 PM

Sewage Handling and Disposal Advisory Committee Meeting

GOAL

To solicit recommendations for addressing stakeholder comments concerning the replacement Alternative Onsite Sewage System Regulations

DISCUSSION TOPICS

1. Alternative path to meeting performance requirements.
2. 12 VAC5-613-70. General approval testing and evaluation.
Testing field performance of TL-2 and Nitrogen
3. Program management – enforcement strategies
What is the significance of sample results?

-Compliance monitoring = result \geq regulatory limit

-Performance check = How is system performing when sample is taken

-Population monitoring = For purposes of General Approval

Proposed AOSS Regulations provide three options

-AOSS functioning as designed and in accordance with the performance requirements of this chapter.

-After providing routine operation and maintenance, the operator believes the AOSS will return to normal operation.

-The system is not functioning as designed or in accordance with the performance requirements of this chapter and additional actions are required by the owner to return the AOSS to normal operation.

12 VAC 5-613-50.D. Failure to follow the approved operation and maintenance manual (O&M manual) shall be deemed a violation of this chapter when such failure results in the failure to achieve one or more performance requirements prescribed by this chapter.

4. Nitrogen – Small vs. Large AOSS
5. Measuring vertical separation to a limiting feature.

- Site characterization
- Design parameters

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