Virginia Department of Health
Sewage Handling and Disposal Advisory Committee (SHADAC) Meeting
Meeting Summary

Date:	May 28, 2024
Time:	10 am to 2 pm
Primary Location:	James Madison Building 5th Floor Main Conference Room 109 Governor Street Richmond, Virginia 23219

Remote Location: Webinar using Webex

SHADAC Members

Mike Lynn, Chairman – Home Builders Association of Virginia
Curtis Moore – Virginia Onsite Wastewater Recycling Association
Lance Gregory – Virginia Department of Health (VDH)
Cody Vigil- Manufacturer
William Johnson – Consulting Engineers Council of Virginia
Colin Bishop – Manufacturer
V'Lent Lassiter – Virginia Department of Environmental Quality (DEQ)
Jay Conta – Virginia Association of Professional Soil Scientist
Vincent Day – Virginia Section, American Institute of Professional Geologists

List of Attendees at Primary Meeting Location:

Scott Currie	Andrew Carter	Preston Kirby	Anne Powell
Anthony Creech			

List of Attendees at Remote Meeting Locations:

Marjorie King	Tanya Pettus	Morgan Butler	Christina Libre
Philip Brown	Ryan Fincham	Joel Pinnix	Josh Hepner
Shannon Hill	Vincent Day	Charlie Paulin	

Tanya Pettus asked to fill in as SHADAC member representing DEQ.

Administrative

Chairman Lynn announced call to order.

1. Welcome

Committee members, VDH staff, and the public welcomed to the meeting. All in person attendees introduced prior to all online attendee introductions made.

Mr. Lynn stated agenda to be reviewed and asked if any new items were proposed to be added.

Mr. Gregory requested to add as new business, the implementation of 12VAC5-610-950.K.2, which was new language in the recent pad amendments to the Sewage Handling and Disposal Regulations (SHDR) and to request a second issue related to contractual issues stemming from a DPOR complaint when an OSE partners with a PE to design a system.

Ms. Lassiter requested to add an update on the sewage pump out program in the Three Rivers Health District and in the Eastern Shore Health District.

Mr. Creech requested to add discussion of the GMP 2019-01 hold harmless question to be added as new business.

Agenda reviewed and approved.

Review summary from July 11, 2023 meeting and November 17, 2023 meeting. Motion moved to approve minutes for both meetings and approved.

Public Comment Period

No comments presented.

Old Business

1. Sewage and Well Assistance Program (SWAP) update

Mr. Gregory reviewed origins of the American Rescue Plan Act (ARPA) SWAP program. The General Assembly approved $11.5 million for septic systems and wells. Approximately 300 applications received in the first seven months in 2021, over $7 million in costs.

Currently 274 eligible applicants for 589 projects - some applicants were not eligible and some projects had multiple parts - with 104 septic systems installed, 80 wells installed, 12 public water and sewer connections, and eight private sector permit designs.

Six local partners have been set up for projects, totaling $2.4 million in costs. VDH distributed $300,000 to each partner to be expended by 2026. Remaining funds will go to local partners.

VDH is also began a director to partner initiative (D2PI) for situations where bids have been sent to Electronic Virginia (EVA) for months at a time, with no bids or unreasonably high bids received. Approximately $1.3 million in projects have been packaged together for D2PI to local partners. We anticipate 68 projects total through D2PI. VDH also has 21 projects pending for $1.2 million, and 16 projects out for bid.

Key takeaways presented by VDH were that Nicole Sandberg was the only full time employee as the wastewater infrastructure manager to implement the program. All other staff were contract employees. The average costs of system has increase substantially, for alternative septic systems

under the program the cost has average above $37,000. VDH proposed to meet with contractors on how to improve similar programs in the future. Mr. Gregory also highlighted that more funding is needed and that VDH is actively looking for funding.

Mr. Conta inquired if there was any evidence that particular areas were more in need than others, such as southwest Virginia.

Mr. Gregory responded that heavily populated areas, that can be viewed with population mapping, such as Northern and Eastern Virginia have big pipe public sewer infrastructure needs.

Ms. Lassiter asked if there were other sources of funding for septic system replacements.

Ms. Powell stated that a septic repair is considered a replacement.

Mr. Gregory stated that most effective basin funding from the U.S. Environmental Protection Agency is limited and that new funding is being sought after.

Mr. Bishop asked if comparisons with other states had been sought. It was stated that in Long Island, New York and Texas, a portion of each septic permit fee is set aside for funding replacement systems.

Mr. Gregory stated that indemnification fund language had been amended so that fund can be used for repairs.

2. Hardship Guidelines.

Mr. Gregory stated that the hardship guidelines now have updated well data, and that quire a few counties would transition based on the initial assessment. Information needed to be shared with EH managers for verification. Some counties still issue a large number of bare application well permits such as Virginia Beach.

Processing Safe, Adequate, and Proper requests would not transition due to bare applications predominately issued.

Mr. Lynn asked if there was a drop dead transition date.

Mr. Gregory replied that there is not a deadline and that Washington state went through a similar transition and that a couple of counties in Eastern Washington never transitioned.

3. Sewage Handling and Disposal Regulations Revisions

Mr. Gregory stated that Anne Powell developed a Notice of Intended Regulatory Action which is currently under administrative review. Two sets of subgroup meetings will be proposed this year to developed draft regulations to present by the end of 2024. Meeting dates are being proposed for late July and leads will draft language from feedback of past meetings by July 1. Second

meeting to be held in August and then first version of revisions prepared. A meeting will be held with SHADAC the week of October 7 and final feedback and revisions completed by December.

Mr. Lynn asked if there was a deadline for revised regulations to be published.

Mr. Gregory replied that VDH must develop revisions within180 days of the closing of the public comment period on the Notice of Intended Regulatory Action, which would be after the public comment period closes.

Mr. Lynn asked how to attend the meetings.

Ms. Powell replied in person and virtual.

Mr. Conta asked if the seven previous subgroups reviewed the SHDR's.

Ms. Powell stated that there were four meetings with proposals and revisions, which compromises the Notice of Regulatory Action.

Mr. Gregory stated that the most current version of the Private Well Regulations is moving forward.

4. Chesapeake Bay Pump Out Program

Mr. Gregory briefed that the local health departments have hired staff, the reporting system is live, and approximately 3,371 pump outs have been entered. There are still a limited number of disposal sites and challenge with long distances of travel for haulers.

Mr. Lynn asked if there was any funding for property owners.

Mr. Gregory stated that there was currently no funding. The Northern Neck and Middle Peninsula has previous successful pump out programs and now pump out records are entered into VDH's Environmental Health Database (EHD).

Ms. Lassiter asked if reported numbers are accurate, where the data is found and who reports to EHD.

Mr. Gregory responded that the information was submitted by the sewage haulers to VDH internal database.

Ms. Lassiter suggested that owners be contacted in a staggered approach.

Mr. Lynn and Mr. Moore both stated that topic should be or has been discussed with Carmody and online RME. The asked if a service provider license required to submit a report in EHD.

Mr. Gregory responded that licensure not a VDH requirement, but could be a topic for the SHDR revisions.

Mr. Moore stated that conventional septic tank pump outs need to be completed by an individual who holds a Department of Professional and Occupational Regulation (DPOR) license.

BREAK

Mr. Lynn called meeting back to order.

Mr. Creech stated that meetings were held in spring about well inspection conflicts. Loudon and Fairfax counties have local ordinances for local health departments to inspect well grouting. Conflicts have risen with scheduling inspections and private onsite soil evaluators (OSEs). The health departments have not been affected by others when scheduling well inspections. DPOR responded that OSEs are not responsible for well inspections, but do have partial responsibility for well location.

Mr. Lynn asked is an OSE completion statement not needed.

Mr. Gregory responded yes, only a VDH inspection is required.

Mr. Moore inquire about combined well and septic permits.

Mr. Lynn stated that he separates well and septic permits.

4. DPOR memo regarding licensure for electrical work.

Mr. Gregory commented on a question that had arisen of whether an electrician is required for onsite septic systems, and which code would they fall under. HE shared a memo from the DPOR board on the matter. Some members of the public asked what VDH's stance was on the issue. Mr. Gregory stated VDH's stance has not changed; the memorandum of understand (MOU) between the Department of Housing and Community Development (DHCD) and VDH on the issue of authority for septic system components still stands.

Ms. King stated that the outcome was the MOU with VDH and DCHD is in place, and if actions did not fall under the MOU then an electrical license is required.

Mr. Gregory stated that some members of the public were concerned that VDH was changing views.

Mr. Conta asked what the issue was.

Mr. Lynn and Mr. Moore explained that septic installers were questioned if they need and electrical permit or not for certain jobs. Some exemptions were written into regulation.

Mr. Gregory said the subject was brought up to provide clarity.

New Business

1. House Bill 1431 Implementation

Mr. Gregory stated the house bill provides avenues for additional units to receive treatment level 3 (TL-3) general approval. The three options would be NSF 350 approval, treatment units that comply with NSF 245 and treatment levels have been achieved, and VDH can accept other standardized methods of testing that show system meet TL-3 treatment level. VDH proposes a two fold process, revision to GMP 2016-03 and an exempt regulatory action.

Mr. Conta asked if VDH needs to give approval.

Mr. Gregory responded that units with NSF 350 will automatically be approved on July 1, 2024. Other units will be reviewed by VDH.

Mr. Lynn asked who presented European testing standards.

Mr. Bishop replied that Platinum came through the European standards.

Mr. Moore asked if operation and maintenance is required during the testing period.

Group responded that additional scrutiny needed of the proposed guidance policy.

Mr. Bishop stated until testing is complete, operation and maintenance (O&M) is not allowed on the system. He questioned how VDH's resources were to evaluate the request to approve new systems.

Mr. Lynn inquired if disinfection is required.

Mr. Gregory stated systems would be accepted as tested. If disinfection was used for testing, then the system would need to be installed with disinfection.

Mr. Lynn asked if treatment units were grandfathered.

Mr. Bishop asked will other revisions be added to application for these new units.

Mr. Gregory responded yes, summary NSF data is the intent of the policy. Also the application will be revised. Approval issued in bulk so as not to grant approval for individuals based on when they applied.

Mr. Moore asked if a draft application would be used for approval. Effective July 1, systems meeting approval need to be accepted.

Mr. Gregory suggested applicants us the form prior to approval of the policy, but not required.

Mr. Gregory stated that work was being done to have a policy in place. Asked if a pre-application would help with the approval process.

Mr. Lynn asked if a policy needed to be made or could VDH simply use the Code.

Mr. Gregory stated it may be possibly just to use code language. He asked if an exempt action would be helpful.

Mr. Bishop asked if policy was internal or public.

Mr. Gregory responded that in order for the policy to go into effect, it must go through the approval process in the Governor's Office.

Mr. Pinnix questioned the use of biological oxygen demand (BOD) verses carbonaceous biochemical oxygen demand, and noted the need for consistency in approvals. He asked if there was any change to the statistical analysis conducted by VDH.

Mr. Gregory agreed with the need to be consistent.

Mr. Gregory asked if the SHADAC felt the policy and exempt action are necessary.

Mr. Lynn stated that there should be a consensus of eventual policy approvals and fast tracking but in the meantime should be based on the code.

2. Implementation of 12VAC5-610-950.K.2

Mr. Gregory noted language in 12VAC5-610-950.K.2 and impacts on drainfield trenches receiving TL 2 and TL3 effluent, and that there is not similar language for conventional trenches. He asked whether revisions were necessary to make the language consistent for all system.

Mr. Lynn asked if there was a denial or complaint.

Mr. Gregory replied that yes, an alternative design was denied, which prompted the question.

Mr. Moore stated that a change could cause industry standard issues and could become political.

Mr. Lynn stated that if an alternative septic was needed, that there are safety factors built in, and should be a SHDR revision question.

3. DPOR complaint referring to OSE partnering with a PE for system designs

Mr. Gregory stated that a complaint was submitted for a SWAP application and design whereas an Onsite Soil Evaluator (OSE) was contracted who then subcontracted with a Professional Engineer (PE). Complaint was submitted to DPOR. VDH's understanding of the outcome of that complaint is that if an OSE contracts with a property owner and later determines that a PE is

required, the OSE cannot be the "go between" contractor. The OSE needs to walk away and the owner needs to contract with the PE directly.

Mr. Hill asked if that stance would pose a ripple effect.

Mr. Gregory replied that VDH cannot check that aspect on designs but not sure how private industry would handle the decision.

Mr. Moore stated that a company may use a registered entity to work with a PE.

Mr. Lynn stated that general contractors us PE's all the time.

Mr. Moore stated that VDH does not regulate how contracts are set up and the review and approval process would not change.

Mr. Gregory stated that he was asked to bring up the topic.

Mr. Lynn asked if VDH should request the WWWOOSSP Board or the PE Board to review or provide policy.

Mr. Pinnix stated that there is a memo that if a PE stamps a design, that PE accepts responsibility for the design.

Mr. Lynn requested for the memo to be shared.

Mr. Gregory stated that for the issue raised for the SWAP project, his understanding is it was a contractual issue.

Mr. Pinnix replied that he thought he filed the complaint.

Mr. Lynn asked if there was a resolution.

Mr. Pinnix replied yes.

Mr. Lynn stated that the SHADAC Board would follow up.

4. Discussion of GMP 2019-01 hold harmless question

Mr. Creech noted concerns with GMP 2019-01 regarding hold harmless agreements when contractors do not receive payment. VDH recommending to revise GMP 2019-01 to remove hold harmless option.

Mr. Gregory stated that well drillers are required to submit completion documentation within 30 days or installation, but no time limit for septic installers to submit completion statements.

Mr. Conta asked was this not legislation.

Mr. Gregory replied that yes for OSE inspections but not for installers to submit completion statements.

Mr. Moore stated that this topic could affect other professions and contractors do not like that owners could provide hold harmless statements.

Mr. Creech stated that local health departments take the heat for Operation Permits to be issued when there are delays.

Mr. Lynn stated the issue could be address in the SHDR revisions and Mr. Gregory agreed.

5. Inspection of designs permitted by other OSEs.

Mr. Gregory presented the question of what is the role of VDH if a property owner and an OSE disagree. Also what would happen for an incomplete project if an OSE passes away.

Mr. Lynn replied that the topic had been addressed before,

Mr. Moore stated that the Code states that the designing OSE shall inspect the installed system.

Mr. Lynn asked how designs with proposed wells would be handled.

Mr. Moore suggested to potentially require an OSE who was hired to inspect another OSE's design to provide a statement why the inspection occurred.

Mr. Day agreed with Mr. Moore, asked how often this practice has occurred, but that the code should be followed. He also expressed that this practice is unethical and should be resolved by OSE's and compared to realtors and how a realtor could be disbarred in a similar situation.

Mr. Lynn and Mr. Moore discussed who would be responsible for a design if an OSE inspected but did not design. They asked if a hold harmless could be provided or could signing off on inspection be sufficient.

Mr. Moore asked if a variance process could be required and would that be a deterrent.

Group agreed to include in SHDR revisions.

Mr. Lynn commented about permit renewal being required with OSE or PE approval.

6. VPT - Public interface for permit processing.

Mr. Gregory shared content of the new Virginia Permit Transparency website and stated it would be similar to DEQ's platform; https://permits.virginia.gov/

Mr. Moore stated it would be helpful to include expiration dates.

Mr. Lynn asked how a permit holder would know if they had the most recent permit approval.

Mr. Moore stated that the VDH cover letter should have the approved date on the approval letter with page numbers.

Adjourn

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Sewage Handling and Disposal Advisory Committee (SHADAC) Meeting
Agenda

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Time:	10 am to 2 pm
Primary Location:	James Madison Building 5th Floor Main Conference Room 109 Governor Street Richmond, Virginia 23219

Remote Location: Webinar using Webex (use instructions below to join)

Join from the meeting link:
https://vdhoep.webex.com/vdhoep/j.php?MTID=m53b49cb2c4e5f4c53ed19e8e9ed9f92e

Meeting number: 2633 708 4600

Join by phone
1-844-992-4726 United States Toll Free
+1-408-418-9388 United States Toll
Access code: 2633 708 4600

Administrative (15 minutes)

1. Welcome. (5 minutes)
2. Approve agenda. (5 minutes)
3. Review summary from November 17, 2023 meeting. (5 minutes)

Public Comment Period (10 minutes)

Old Business (60 minutes)

1. SWAP update. (15 minutes)
2. Hardship Guidelines. (30 minutes)
3. Sewage Handling and Disposal Regulations Revisions (15 minutes)

Break (10 minutes)

Old Business (45 minutes)

4. DPOR memo regarding licensure for electrical work. (45 minutes)

New Business (30 minutes)

1. House Bill 1431Implementation (30 minutes)

Break (10 minutes)

New Business (90 minutes)

2. Inspection of designs permitted by other OSEs. (45 minutes)
3. VPT - Public interface for permit processing. (15 minutes)

Adjourn

<date>, 2024

MEMORANDUM

TO: District Health Directors
District Environmental Health Managers
GMP 2024-01

THROUGH: Karen Shelton MD
State Health Commissioner

THROUGH: Julie Henderson, Director, Office of Environmental Health Services

FROM: Lance Gregory, Division Director

SUBJECT: GUIDANCE MEMORANDUM AND POLICY (GMP) 2024-01: Implementation of 12VAC5-613-70, the Regulations for Alternative Onsite Sewage Systems (the AOSS Regulations).

I. Definitions:

The following terms have the same meaning as found in the AOSS Regulations: BOD_5, Division, general approval, small alternative onsite sewage system (AOSS), third party, TL-2, and TL-3. "Residental wastewater" has the same meaning found in §54.1-400 of the Code of Virginia (the Code). The following additional terms have the following meaning with respect to this policy:

"NSF/ANSI 40" means a standard promulgated by the National Sanitation Foundation and American National Standards Institute for residential wastewater treatment systems with rated capacities between 400 and 1,500 gallons per day. To achieve certification, treatment systems must produce an acceptable quality of effluent during a six-month (26-week) test. Class I systems must achieve a 30-day average effluent quality of 25 mg/l carbonaceous 5-day biochemical oxygen demand ($CBOD_5$) and 30 mg/l total suspended solids (TSS) or less, and pH 6.0-9.0

"Quality Assurance and Quality Control (QA/QC) Plan" means a document developed by a third party to describe the proper collection, transport and handling of samples by properly trained and qualified persons.

II. Purpose:

This policy implements §32.1-164.10 of the Code and 12VAC5-613-70, which requires the Division to develop a protocol to verify the performance of small AOSS treatment units. This policy establishes procedures and pass/fail criteria for field evaluation of TL-3 and how treatment units will be recognized as generally approved for TL-2 or TL-3. Requests for TL-2 or TL-3 general approval after the effective date of this policy are subject to §32.1-164.10 of the Code, 12VAC5-613-70 and the requirements herein.

GMP #2016-01 is rescinded and replaced with this policy.

Any manufacturer with a prior agreement (that has not expired) may update the old agreement upon request in conformance with this policy; however, the manufacturer can also choose to follow the prior agreement.

III. Scope:

The evaluation procedure described herein only applies to a small AOSS treating residential wastewater. A manufacturer is not required to have any treatment unit evaluated pursuant to this policy, nor is a designer required to use a generally approved treatment unit. Until a manufacturer's product line is generally approved, it is not generally approved, which means a non-generally approved treatment unit must adhere to the reporting schedule of 12VAC5-613-100.E.

The protocol outlined herein is a method to evaluate treatment efficacy for a specific manufacturer's product line that is designed to treat residential wastewater from a single family home. The evaluation protocol does not predict the performance or statistical mean of any particular treatment unit from an individual home. VDH does not rely solely on the results of an individual grab sample to establish the factual basis for a violation of the AOSS Regulations.[1]

IV. Background:

VDH historically evaluated nascent and emerging technologies using "experimental" or "provisional" protocols in 12VAC5-610 by coupling treatment with dispersal, requiring fecal coliform measurements after effluent dispersed through the soil. From 1996 through 2009, three manufacturers--Bord na Móna (Anua), Orenco, and Premiere Tech--collected "end-of-pipe" effluent data from units installed in Virginia during their experimental and provisional evaluation. These evaluations demonstrated higher-quality effluent could be dispersed at higher soil loading rates and with reduced vertical separation to soil limiting features. Additional manufacturers subsequently provided end of pipe data for their units (Bio-Microbics, Clearstream, Ecological Tanks, Inc., EZ Treat, and Quanics). Five of these manufacturers received general approval for TL-3 before the effective date of the AOSS Regulations; the others received general approval afterwards.

V. Procedures for TL-2 general approval:

All treatment units with NSF/ANSI Standard 40 Class I (NSF/ANSI 40) approval are generally approved for TL-2 without further evaluation and approval. Field sampling is only

[1] 12VAC5-613-50.I states, "*[except] when there is additional evidence that an AOSS has failed to achieve one or more of the performance requirements of this chapter or when a licensed operator has filed a report indicating that an AOSS cannot be returned to normal function via routine maintenance, the department shall not rely solely on the results of an individual grab sample to establish the factual basis for a violation of this chapter.*"

required in accordance with 12VAC5-613-100 to verify individual system performance. NSF's listing of Standard 40 Class I approved treatment units is available at http://www.nsf.org/Certified/Wastewater/Listings.asp?TradeName=&Standard=040. The Division may request an installation and design manual. Otherwise, a manufacturer of a treatment unit without NSF/ANSI 40 approval may request general approval for TL-2 by submitting the application found in Appendix A1.

VI. Procedures for TL-3 general approval:

NSF/ANSI Standard 350

All treatment units with NSF/ANSI Standard 350 (NSF/ANSI 350) approval are generally approved for TL-3 without further evaluation and approval. Field sampling is only required in accordance with 12VAC5-613-100 to verify individual system performance. NSF's list of Standard 350 approved treatment units is available at https://info.nsf.org/Certified/Wastewater/Listings.asp?TradeName=&Standard=350. The Division may request an installation and design manual.

NSF/ANSI Standard 245 or Equivalent Testing Indicating TL-3

Treatment units that have received NSF/ANSI Standard 40 or NSF/ANSI Standard 245 approval with testing that indicates that TL-3 standards are achieved shall be generally approved for TL-3. Manufacturers seeking approval based on NSF/ANSI Standard 40 or NSF/ANSI 245 can obtain general approval by completing the application (Appendix A2) and providing a copy of summary data results from the NSF/ANSI testing.

Other standardized testing methods that demonstrate TL-3 effluent standards are achieved may be accepted by the Division. Other standardized testing methods will only be considered if the following conditions are met:

1. Testing is conducted by an independent third-party.
2. The treatment unit was continuously tested for a minimum of 26 weeks, with sampling conducted during all weeks of the testing period.
3. The treatment unit was not subjected to service, maintenance, or modifications during the testing period.
4. The average five-day carbonaceous biochemical oxygen demand concentration for a minimum of 55 effluent samples collected on discrete testing period days does not exceed 10 milligrams per liter and no single sample exceeds 25 milligrams per liter.
5. The average total suspended solids concentration for a minimum of 55 effluent samples collected on discrete testing period days does not exceed 10 milligrams per liter, and no single sample exceeds 30 milligrams per liter.
6. The testing period includes both stress testing and vacation testing.

Commented [GL(1]: Need to clarify that this applies to the testing, not once a system is installed.

Field Testing

A manufacturer can obtain general approval by submitting a complete application (Appendix A2), signing a memorandum of understanding and agreement (Appendix B), and then successfully executing and completing the agreement.[2] A manufacturer with a product recognized for TL-3 general approval prior to December 7, 2011 shall retain such status until December 7, 2016.[3] The following is necessary for processing the application:

i. The proprietary treatment unit must be recognized by VDH as generally approved for TL-2 treatment.

ii. A professional engineer licensed to practice in Virginia must certify in writing that in his professional opinion the treatment unit can be expected to consistently produce "end-of-pipe" effluent meeting TL-3.

iii. The manufacturer must submit an operation and maintenance (O&M) manual that is acceptable to the Division. The O&M manual is for listing purposes only and must contain the following minimum elements:[4]
   a. A list of any control functions for the treatment unit and how to use them.
   b. A recommended schedule for periodic monitoring and inspection of the treatment unit and the actions recommended at each inspection interval.
   c. The expected use and the design criteria for the treatment unit.

iv. The professional engineer must certify in writing that he has reviewed the manufacturer's O&M manual and that, in his professional opinion, the manufacturer's maintenance schedule appears to accurately reflect the servicing and maintenance needs of the proprietary treatment unit.

v. The Division Director and the manufacturer must execute the Memorandum of Understanding and Agreement to evaluate the treatment unit's efficacy.

The AOSS Regulations, at 12VAC5-613-70, describes the process for field testing. Treatment unit models that are identical in function and vary only in design flow may comprise the test population. For example, the test population may be Model X-500, Model X-600, and Model X-750 with design flows of 500, 600, and 750 gallons per day, respectively.

If a non-generally approved TL-3 unit is installed, then sampling requirements follow 12VAC5-613-100.E. Data collected may fulfill sampling requirements for 12VAC5-613-100.E and this policy.

The memorandum of agreement may be amended by mutual consent of the parties, and may be terminated by either party with notice. The State Health Commissioner specifically delegates responsibility of signing the contract to the Division Director, Division of Onsite Sewage, Water Supplies, Environmental Engineering and Marina Programs. By executing the Agreement, the Manufacturer and Division agree that within three years of the date the agreement is executed, the manufacturer will complete an evaluation of a minimum of 20

[2] The manufacturer can provide the application electronically to Marcia.Degen@vdh.virginia.gov.

[3] See 12VAC5-613-30.L and M for more information.

[4] Depending on the specific and individualized design, additional or different O&M instructions may be necessary for a unique system installation.

treatment units located and installed in the Commonwealth of Virginia, which will be jointly agreed upon by the manufacturer and the Division. The Division and manufacturer also agree to the following:

i. Each of the 20 treatment units selected for evaluation must be designed and used for a single-family residential dwelling with a design flow less than or equal to 1,000 gallons per day (GPD), used as expected for a permanently occupied home. Residential design flows shall be calculated using the rate of 150 gallons per day (GPD)/bedroom.

ii. The manufacturer will not evaluate any unit associated with seasonal occupancy or seasonal rental use.

iii. The manufacturer will contact the Division when a viable treatment unit has been installed or identified. Upon notice, the Division will confirm whether the treatment unit is suitable for testing.

iv. The manufacturer will maintain an electronic database of treatment units selected for evaluation and report that database to the Division. On a quarterly basis, the manufacturer will provide influent and effluent results as described in section v (below). The manufacturer will retain copies of the Chain of Custody forms for sample collection, transport, and measurement and provide them to the Division within five days of submitting the quarterly database report.

v. The manufacturer will hire and use a third party accepted by the Division to oversee and administer the testing and evaluation protocol. At a minimum, four consecutive quarterly influent and effluent samples must be collected for 12 months from each of the 20 treatment units. Quarters run from January 1 to March 31, April 1 to June 30, July 1 to September 30, and October 1 to December 31. Treatment units must be in operation for at least 3 months before sampling begins.

   All procedures to collect, transport, and measure samples, with proper chains of custody, must be conducted under the supervision of an independent third party.

vi. Failure of the manufacturer to report in accordance with section iv (above), or failure of the manufacturer to make progress toward the goal as evidenced by the installation and monitoring of the treatment units, may result in the termination of the agreement.

vii. All units must be operated and maintained in accordance with the site specific O&M manual required by 12VAC5-613-170. A manufacturer may ensure that a unit is in proper working order at the start of the study; however, O&M during the course of the study must be conducted by an independent, properly licensed operator in accordance with the approved O&M manual. The third party must assess impacts from additional O&M performed on the treatment unit to maintain its function. The third party must also submit O&M logs for each site with the final report.

viii. The third party must provide an acceptable Quality Assurance and Quality Control (QA/QC) plan that includes information on the collection, transport, and handling of samples.

The manufacturer must provide the Division with a copy of its contract with the third party that specifies the third party's duties, including the need to have properly trained persons and/or licensees to collect, transport, or test samples from the treatment units. The contract between the manufacturer and third party becomes an addendum to the agreement. If requested by the Division, the manufacturer will have the third party provide at least 72 hours notice before collecting samples to allow for joint collection with the Division upon request.

The manufacturer must ensure that at least two inspection and sampling ports are available on each treatment unit to allow the third party to adequately sample influent and effluent. Each inspection and sampling port must be located in a manner to accurately characterize the influent and effluent. The manufacturer must have the third party report influent results for pH, BOD_5 and TSS. The third party may estimate flow based on water meter readings, pump run time meters, pump run counters, number of persons in the household, or another method detailed in the QA/QC plan.

If the influent does not reflect the average or normal values for residential wastewater, then the Division may require additional testing or eliminate that specific residence from the evaluation. Influent testing is required to verify that the treatment unit is receiving residential strength wastewater. If influent data is not practical to collect, then the manufacturer may report effluent from the primary settling tank (septic tank or trash tank) as influent, or request that influent sampling be waived. The Division may consider and agree to other influent sampling points on a case by case basis. Flow may be induced through the unit to obtain an effluent sample in accordance with the QA/QC plan. Induced flow must not exceed 5 GPM or extend beyond the time needed to collect a suitable sample. The third party must keep and maintain chain of custody documentation in accordance with the QA/QC plan for each sampling event and provide that documentation with the quarterly report.

The sample collection, preservation, holding times, and analytical methods for all required parameters must comply with 40 CFR 136. Composite or grab samples for TSS and BOD_5 may be used. The use of a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP) is recommended; a list of Virginia Environmental Laboratory Accreditation Program (VELAP) accredited laboratories is available at http://www.dgs.state.va.us/DivisionofConsolidatedLaboratoryServices/Services/EnvironmentalLaboratoryCertification2/tabid/1503/Default.aspx.

The manufacturer must maintain an electronic database or spreadsheet of all system installations, and report the database to the Division Director by the 15th day of January, April, July, and October of each year the evaluation continues. The spreadsheet report will include sample results for influent and effluent; interim observations about the treatment unit's performance with respect to the pass/fail criteria; and the level of effluent treatment required for each installation (TL2 or TL3).

The pass/fail criteria for effluent will be as follows:

Effluent Parameter	Upper 99% Confidence Interval of Log-Transformed Data Converted Back to Native Units

BOD_5 (mg/l)	Less than or equal to 10 mg/l
TSS (mg/l)	Less than or equal to 10 mg/l

Each of the four quarterly samples for each treatment unit shall be log transformed and then averaged before applying the statistical manipulation. A one tailed t-test shall be applied with n-1 degrees of freedom, where "n" is equal to the number of test sites/units. The method detection level must be reported for the required parameter analyses. For the purposes of data manipulation, values below the method detection level will be treated as one-half of the method detection level.

At the conclusion of its evaluation in accordance with the Agreement, the identified third party must prepare a final report with the following minimum information:

i. Description of sites selected and typical installation, including how sites were selected;
ii. Geographic locations of systems tested;
iii. O&M logs and an assessment of any O&M performed, including effects O&M might have had on the outcome of test results;
iv. Chain of custody forms;
v. List of key participants;
vi. Description of sampling and analytical methods;
vii. All testing results, including sample data, statistical analyses, or other evaluations;
viii. Rationale for exclusion of data or removal of a system from the statistical analysis, if necessary; and
ix. An overall evaluation or assessment of the study data.

The report must include an electronic copy of the data in Excel format for statistical analysis or as otherwise agreed by the Division. The Division will review the final report and determine whether the treatment unit can be listed as generally approved for TL-3 treatment. Upon submission of the third party report, the Division will evaluate results and determine whether the treatment unit passed the evaluation within 90 days of receipt.

The final effluent result for BOD_5 and TSS will be determined as the upper 99th-percent confidence interval of the log-transformed effluent data, converted back to "native" units (i.e., the antilogarithm of the upper 99th-percent confidence interval of the log-transformed effluent data). Each of the four quarterly samples for each evaluated treatment unit shall be log transformed and then averaged before applying the statistical manipulation. A one-tailed "t" distribution shall be used with n-1 degrees of freedom, where "n" is equal to the number of test units.

If the above statistical analysis indicates that the treatment unit produces 10 mg/l or less BOD_5 and TSS, then the treatment unit will be generally approved for TL-3 treatment, and listed (Appendix E). The manufacturer of a treatment unit that fails its evaluation may, with sufficient justification, petition VDH to execute a new agreement to repeat field testing. Examples of sufficient justification include modification of the treatment unit to improve performance and/or the discovery of errors in the initial testing, including laboratory errors, which are sufficient to

invalidate the original test's data and conclusions. A manufacturer failing to complete the testing within the three year time period may request a new agreement with adequate justification.

A treatment unit may be removed from general approval when the design of the treatment unit has substantially changed from the design that was tested and evaluated. In such case, the Division will notify the manufacturer and provide due process in accordance with the Administrative Process Act.

12VAC5-613-70. General approval testing and evaluation.

A. The division shall develop a protocol to verify the expected performance of treatment units of small AOSSs that meet TL-2 or TL-3 effluent quality. The protocol to evaluate and test field performance of TL-3 treatment units shall include the following minimum requirements:

1. The manufacturer shall evaluate at least 20 treatment units installed in the Commonwealth of Virginia for single family residences occupied full-time, year-round throughout the testing and evaluation period;

2. The manufacturer shall provide the division with quarterly results of influent and effluent samples measuring, at a minimum, BOD and TSS for each installed treatment unit;

3. Operation and maintenance shall be performed on each treatment unit during the evaluation period in accordance with the provisions of this chapter; and

4. An independent third party with no stake in the outcome of the approval process shall oversee and administer the testing and evaluation protocol. Examples of an independent third party include faculty members in an appropriate program of an accredited college or university, a licensed professional engineer experienced in the field of environmental engineering, or a testing firm that is acceptable to the division.

Commented [GL(2]: Is there a potential conflict with this language and the proposal for no testing in the GMP? (curtis comment)

B. A treatment unit that has not been field tested to evaluate treatment level 3 performance shall be generally approved by the Department as a treatment level 3 system if:

1. The treatment unit is certified to comply with NSF/ANSI 350 - Onsite Residential and Commercial Water Reuse Treatment Systems; or

2. The treatment unit is certified to comply with NSF/ANSI 245 - Residential Wastewater Treatment Systems - Nitrogen Reduction, provided that testing indicates that treatment level 3 effluent standards are achieved, or another standardized test method determined to be acceptable by the Department, or has been tested using methods determined to be acceptable by the Department, and the following conditions are met:

    a. The treatment unit is continuously tested for a minimum of 26 weeks, with sampling conducted during all weeks of the testing period, and the treatment unit is not subjected to service, maintenance, or modification during the testing period;

    b. The average five-day carbonaceous biochemical oxygen demand concentration for a minimum of 55 effluent samples collected on discrete testing period days does not exceed 10 milligrams per liter and no single sample exceeds 25 milligrams per liter; and

    c. The average total suspended solids concentration for a minimum of 55 effluent samples collected on discrete testing period days does not exceed 10 milligrams per liter, and no single sample exceeds 30 milligrams per liter.

C. Treatment units that are generally approved as treatment level 3 products under subsection B shall be:

1. Certified by an organization accredited by the American National Standards Institute, Standards Council of Canada, International Laboratory Accreditation Cooperation, or other accreditation body determined to be acceptable by the Department; or
2. Evaluated by a testing organization determined to be acceptable by the Department when the treatment unit is not tested and certified under NSF/ANSI 350, NSF/ANSI 245, or another standard accepted by the Department.

D. A treatment unit approved as a treatment level 3 product under subsection B and meeting the applicable regulations and Department policies for use as a nitrogen-reducing alternative onsite sewage system shall be generally approved by the Department as a nitrogen-reducing treatment level 3 system.

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Department of Professional and Occupational Regulation

MEMORANDUM

TO: **Members, Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals**

FROM: **Tanya M. Pettus, Deputy Executive Director**
Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals

DATE: **April 11,2024**

SUBJECT: **Discussion on Licensing Requirements for Onsite Sewage System Installations**

I. Background

Through various communications among industry professionals, it has come to the attention of Board staff that onsite sewage system installers may be performing the electrical work required as part of the installation of onsite sewage systems without proper licensure to perform electrical work. While there has been no direct communication to the Board, and no complaints have come before the WWWOOSSP Board or Board for Contractors regarding the matter, at its meeting on January 25, 2024, the Board requested that further discussion be held on the licensing requirements for the electrical portion of onsite installations.

Relevant statutes and regulations have been compiled to facilitate the conversation.

II. Relevant Statutes and Regulations

Section **18VAC160-40-110** of the Onsite Sewage System Professionals Licensing Regulations states:

> No individual shall install a conventional or alternative onsite sewage

system without a valid onsite sewage system installer license issued by the board in the appropriate class.

Section **18VAC160-40-10** defines installer as such:

"Alternative onsite sewage system installer" means an individual licensed by the board to construct, install, and repair conventional and alternative onsite sewage systems.

"Conventional onsite sewage system installer" means an individual licensed by the board to construct, install, and repair conventional onsite sewage systems.

Section **54.1-1128 of the Code of Virginia** defines "tradesman" as such:

"Tradesman" means any individual who engages in, or offers to engage in, work for the general public for compensation in the trades of electrical, plumbing and heating, ventilation and air conditioning.

Pursuant to **§ 54.1-1129**, "no individual shall engage in, or offer to engage in, work as a tradesman as defined in § 54.1-1128 unless he has been licensed under the provisions of this article. Individuals shall not be subject to licensure as a tradesman when working under the supervision of a tradesman who is licensed in the specialty for which work is being performed. Individuals holding a license in one specialty shall not be required to have a tradesman license in another specialty when performing work which is incidental to work being performed under their own specialty license."

18VAC50-30-10 of the Board for Contractors' Individual License and Certification Regulations defines "electrical work" and "electrician" as such:

"Electrical work" consists of, but is not limited to, the following: (i) planning and layout of details for installation or modifications of electrical apparatus and controls including preparation of sketches showing location of wiring and equipment; (ii) measuring, cutting, bending, threading, assembling, and installing electrical conduits; (iii) performing maintenance on electrical systems and apparatus; (iv) observation of installed systems or apparatus to detect hazards and need for adjustments, relocation, or replacement; and (v) repairing faulty systems or apparatus.

"Electrician" means a tradesman who does electrical work including the construction, repair, maintenance, alteration, or removal of electrical systems in accordance with the National Electrical Code and the Virginia Uniform Statewide Building Code.

Board for Contractors Regulations **18VAC50-22-30** defines sewage disposal system contracting as follows:

"Alternative sewage disposal system contracting" (Abbr: ADS) means the service that provides for the installation, repair, improvement, or removal of a treatment works that is not a conventional onsite sewage system and does not result in a point source discharge. No other classification or specialty service provides this function.

"Conventional sewage disposal system contracting" (Abbr: CDS) means the service that provides for the installation, repair, improvement, or removal of a treatment works consisting of one or more septic tanks with gravity, pumped, or siphoned conveyance to a gravity distributed subsurface drainfield. The ADS specialty may also perform this work.