

Virginia Department of Health (VDH)
Sewage Handling and Disposal Advisory Committee (SHADAC)
April 15, 2015 – Meeting Summary

Meeting location:

2nd Floor, Board Room 3
Perimeter Center
9960 Mayland Drive
Henrico, Virginia 23233

List of attendees:

Advisory Committee Members

Mike Lynn	Lance Gregory	Tammy Faulkner	Jim Pyne
Matt Tolley	Curtis Moore	Alan Brewer	Charlie Swanson
V'lent Lassiter	Vincent Day	Jim Hall	Joel Pinnix
Cody Vigil	Chris Beatley		

Mr. Gregory sat in place of Dwayne Roadcap representing the VDH. Mrs. Faulkner sat in place of David Fridley representing the Virginia Environmental Health Association (VEHA). Mr. Swanson sat in place of Valerie Rourke representing the Department of Environmental Quality (DEQ). Mr. Beatley sat in place of Colin Bishop representing manufacturers.

VDH Staff and Members of the Public

Allen Knapp-VDH	Marcia Degen-VDH	Sean McGuigan
Bob Marshall	Jim Slusser	

Administrative

1. Welcome.

Chairman Lynn welcomed everyone to the meeting.

2. SHADAC appointment.

Mr. Gregory introduced Mrs. Lassiter as the new representative for the Chesapeake Bay Local Assistance Department and Mr. Brewer as the new representative for the Virginia Association of Counties.

3. Approve agenda.

Mr. Gregory stated that he received a comment prior to the meeting asking to strike the water well form discussion. He asked whether there was consensus to remove the item from the agenda. Mr. Day asked to leave the item on the agenda. The agenda was approved.

4. Review summary from August 6, 2014 meeting.

Mr. Gregory asked whether there were additional edits beyond those previously provided by Mrs. Rourke and Mr. Bishop. No additional edits were provided and the draft summary was approved.

5. Establishment of public comment period.

The committee discussed how a public comment period could work as part of committee meetings. Dr. Pyne suggested having the comment period at the end of the meeting. Mr. Pinnix commented that the committee rules already invite the public to speak. Other members suggested that the public comment period could be a standing issue under new business, that public comments should not divert discussion to issues outside of the committees charge, and that maximum time limits should be set.

Mr. Tolley made a motion that each speaker be limited to 5 minutes. That motion was seconded by Mr. Moore. Other members asked whether there would be a limit on the number of people and where the comment period would occur within the meeting. The motion was amended to establish a public comment period to be limited to 5 minutes per person, within the agenda as decided by the Chairman, but that the public are still allowed to comment throughout the meeting when recognized by the Chairman. The motion passed with all members in favor. The meeting was then opened up for public comment.

Public Comment Period

There were no comments from members of the public at this point of the meeting.

Old Business

1. Implementation of SHIFT recommendations – GMP 2015-01 FAQs.

Committee members were presented a draft Frequently Asked Questions (FAQs) document intended to answer questions that had arisen during training on Guidance Memorandum and Policy (GMP) 2015-01. Mr. Gregory asked the committee to review the document and provide any feedback, especially regarding any missing questions. He also asked the committee what the best way to share the information would be and whether additional training was necessary.

Mr. Tolley stated that there are some missing questions and suggested a webinar to provide more detail once the document is complete. He added that training may lead to more questions that need to be answered.

Mr. Gregory commented that the intent was to create a living document, where new questions and answers would be added in the future.

Mr. Pinnix commented that he felt the committee had not weighed in on the GMP, and that the FAQs would have been greatly reduced with more discussion of the policy among the committee. He added that the FAQs should be posted with the policy.

Dr. Pyne voiced concern over the tendency to issue policies rather than amend the regulations.

Mr. Marshall voiced concern over discussion of well designs in the FAQs, the lack of a “once touched” policy, and the elimination of the abbreviated design form.

Mr. Pinnix commented on an FAQ which states VDH does not have authority to enforce the Authorized Onsite Soil Evaluator Regulations (12VAC5-615), saying that he felt certain sections are still relevant for setting a work product standard. He also commented on sites with previous soils work from the private sector, and asked how VDH can perform a design on these sites.

Mr. Moore stated that the proposed Department of Professional and Occupational Regulations may address the use of another onsite soil evaluator’s (OSE) work.

Mr. Tolley mentioned that he would conduct his own work, regardless of whether he was allowed to use another OSEs work, to have 100% confidence in the design.

Chairman Lynn stated there are two questions: 1) is it legal to use another OSEs work; and 2) is it professional.

Mr. Gregory asked for clarification as to whether the concern was for all OSEs – VDH could have previous soil work on file that a private OSE or a VDH OSE can access – or is the question whether VDH should accept bare applications when there is existing soil work on file (“once touched” policy).

Mr. Pinnix commented that soil work would only be on file if there were a certification letter, and that in those situations, there is not bare application.

Several committee members discussed whether the time lapse since the last soil evaluation should trigger a new evaluation.

Chairman Lynn asked whether the committee had any recommendations to put forward regarding the GMP 2015-01 FAQs. Mr. Pinnix made a motion that committee create a subcommittee to sit down with VDH staff and go through the FAQs and determine what they feel is wrong, what they feel is right, and what they feel needs further discussion. Mr. Tolley seconded the motion. On committee member asked whether the discussion would be more appropriate for the full committee, but there was general agreement that a smaller committee would be more practical. The motion passed with all members of the committee in favor. Mr.

Tolley, Mr. Moore, Mr. Pinnix, Mr. Vigil, and Chairman Lynn offered to represent their respective organizations on the subcommittee.

2. Review SHADAC meeting rules.

Chairman Lynn asked for thoughts on the committees meeting rules.

Mr. Pinnix states that he believes the rules are still valid.

Mr. Moore commented that it would be helpful to have a list of questions raised during the meeting that the committee wants responses from VDH on, and have that list of questions be discussed during the first part of the next meeting.

Mr. Pinnix commented on previous request were the agency did not provide the requested response.

Chairman Lynn stated that in those cases “no response” was the answer from the agency.

New Business

1. Future meeting schedule.

Several members had suggested the need for a more frequent meeting schedule. The committee discussed how best to organize future meetings. Mr. Gregory commented that video conferencing was not an option at the Perimeter Center, and that should be taken into account to allow members to attend the meeting remotely. Some committee members commented that face-to-face meetings are more productive. The general consensus of the committee was that quarterly meetings would be helpful, with more frequent meetings as needed on high priority issues. Meetings could be cancelled if there is no business to discuss. The committee suggested meeting dates in mid to late March, early June, early September, and early December, with Wednesday's being the preferred meeting day.

2. Prioritization of discussion items for future meetings.

Prior to the meeting, committee members and other stakeholders were asked to submit items they felt required discussion at future committee meetings. Before the meeting those suggested items were group together and placed around the room on easel pads. Committee members and other attendees were then given the opportunity to add additional items to the list around the room. Committee members were then given five dots and asked to place the dots next to items they felt should receive priority for discussion. A copy of the items listed and the number of votes for each grouping and individual item is attached.

After voting, the committee reviewed groupings that received the highest level of interest. The first of these items was regulatory review. Dr. Pyne commented that there is a structural problem with issuing regulations and then having GMPs to expand on those regulations. He and other

committee members stated that there is a need for a complete review of all onsite sewage system regulations.

Mr. Vigil commented that the nitrogen requirements will not work with conventional systems receiving a pass. Dr. Degen noted that VDH does not have authority to impose nitrogen reductions on conventional system designs.

Another high priority grouping was discussion on internal VDH policies. Committee members questioned the appropriateness of local health departments issuing local policies not supported by statewide regulations or local ordinances. This included clarification on a issue raised about the use of a loading rate chart unique to the Rappahannock Health District.

Mr. Marshall said he was surprised that only one dot was placed on data analysis, noting that data analysis is critical to making decisions. Mr. Gregory commented that some aspect of data is likely included in each of the varying discussion points.

Mr. Knapp then addressed the committee. He stated that VDH would like to work on communication and wants to work on providing reassurance that the committee's voice is heard. He stated that he would be reviewing how other agency committees work and see how recommendations are communicated from those committees. Mr. Knapp also commented on VDH's commitment to making Virginia the healthiest state in the nation. He challenged the committee to think about where environmental health fits in that model and think broadly about population health and what we [the onsite sewage industry] do that has a positive affect on population health. What data could we collect to assess population health? Mr. Knapp also shared metrics set by the agency that are displayed on dashboard website, one of which has to do with failing onsite systems and how quickly the failure is corrected.

Committee members commented on the challenges in measuring the programs impact on public health. Several members suggested that removing impediments to more public health friendly systems – small community systems – might be accomplished through a regulatory review.

3. Joint GW-2/UWWCR form.

Mr. Gregory stated that the VDH's Office of Environmental Health Services and the Office of Drinking Water are working with DEQ to create a joint well construction reporting form. Currently both offices at VDH and DEQ have separate forms. The idea is to create a uniform statewide form as well as an online reporting tool. Mr. Gregory asked for ideas on how VDH could best use the information they collect, and how best the information could be shared with stakeholders.

Mr. Day commented that currently stakeholders have to conduct a file search through a Freedom of Information Act request. He comments that having data mapped and making it more accessible is preferable; mentioning Fairfax County as a model.

Mr. Moore stated it might also be beneficial if the information could be tied into geographic information systems at a local government level.

Mr. Brewer commented that the agencies need to be careful to consider the resources needed to process and enter the data.

Chairman Lynn voiced concerns of the lack of chemical analysis of ground water and potential health implications, such as issuing permits for private wells in area of unreported chemical spills. Mr. Moore suggested that having all initial testing samples go to VDH may help to address that concern.

4. Discussion of draft policies.

Mr. Gregory provided the committee with current draft versions of several policies that had been brought before the committee previously. The committee then briefly discussed each of these policies.

The first policy discussed dealt with a variance process from the requirements for direct dispersal of effluent to ground water when repairing or voluntarily upgrading existing systems that directly disperse septic tank effluent. Mr. Gregory commented that the State Health Commissioner has received 14 variance requests on this issue to date. In those cases, a shallow depth to water table and/or impermeable soils along with other site restrictions left direct dispersal as the only viable option for a repair or voluntary upgrade. The draft policy would allow for variances from stringent performance and operational requirements for qualifying designs provided the designs meet certain criteria outlined in the policy.

Mr. Pinnix voiced significant concern with the policy. He commented that the regulations provided VDH with the necessary latitude to issue these permits under the repair clause without a variance. He voiced concern that making owners go through this process might push them towards taking a waiver [Va. Code Section 32.1-164.1:1] and installing a system that only disperses septic tank effluent to avoid direct dispersal requirements. Mr. Pinnix also voiced concerns that the policy is complex and may not be easily understood, and that the testing requirements are arbitrary. He suggested joining the waiver of treatment under Va. Code Section 32.1-164.1:1 with a waiver of operational requirements.

Ms. Faulkner agreed that the policy is too complicated.

Mr. Gregory asked for comments and edits on the draft policy within the next week if possible.

Next, Mr. Gregory briefly discussed a policy for collection of geographical locations of onsite sewage systems and private wells. He stated that the policy attempted to address previous concerns raised by the committee.

Several committee members asked whether the policy created a mandate for private sector designers to collect geographical information. Mr. Gregory stated that was not the intent. Members suggested clarifying that point within the policy.

Mr. Brewer commented that VDH needs to assure that it has the resources necessary to implement the policy.

Dr. Degen then provided an update on a draft policy re-write of GMP 147. She commented that the policy roles in treatment level 3, and as well as discussion about the use of data collected outside of Virginia.

Mr. Pinnix voiced concerns about the data measures being used. He also questioned the need, given that manufacturers spend a significant amount of money to go through National Sanitation Foundation (NSF) testing protocols.

Mr. Vigil commented that some manufacturers feel that their hands are tied, and are waiting for Virginia to accept data from other states.

Mr. Pinnix made a motion to recommend that the State Health Commissioner terminate the treatment level 2 and treatment level 3 testing programs, and accept NSF 40 and NSF 245 data, and the judgment of licensed design professionals. Mr. Moore asked whether the motion would leave out manufacturers that do not go through NSF 40 or NSF 245 protocols. Chairman Lynn commented that there is a vast difference in performance expectations around that state, sometimes penalizing people trying to do the right thing. Mr. Moore commented that the recommendation may make a statement to the State Health Commissioner, but he was not sure that is was actually the right direction. The motion did not pass, with 4 opposed, 1 in favor, and all others abstaining.

Mr. Moore made a motion to recommend that the State Health Commissioner revisit the section of the regulations that deals with treatment level 2 and treatment level 3 testing. The motion passed with all but one member in favor, that member abstained.

Chairman Lynn then asked committee member if there were any other question or recommendations before the meeting adjourned.

Mr. Moore asked what the expectations were for the industry to meet VDH's commitments to the Chesapeake Bay Watershed Implementation Plan goals? What are the milestones?

The meeting adjourned.

**Virginia Department of Health
Sewage Handling and Disposal Advisory Committee Meeting
Agenda**

Date: April 15, 2015
Time: 10 am to 2 pm
Location: 2nd Floor, Board Room 3
Perimeter Center
9960 Mayland Drive
Henrico, Virginia 23233

Administrative (35 minutes)

1. Welcome. (5 minutes)
2. Approve agenda. (5 minutes)
3. SHADAC appointment. (5 minutes)
4. Review summary from August 6, 2014 meeting. (5 minutes)
5. Review SHADAC meeting rules. (15 minutes)

Public Comment Period

Old Business (20 minutes)

1. Implementation of SHIFT recommendations. (20 minutes)
 - a. FAQs

Break (10 Minutes)

New Business (75 minutes)

1. Future meeting schedule. (15 minutes)
2. Prioritization of discussion items for future meetings. (60 minutes)

Break (10 minutes)

New Business Continued (70 minutes)

3. Joint GW-2/UWWCR form. (10 minutes).
4. First item from prioritization list. (60 minutes).
5. Additional items from prioritization list as time allows.

Adjourn

**Future SHADAC Discussion Items
As Presented for Prioritization**

SHADAC – 7 Total Votes

1. What is the SHADAC's purpose?
 - Getting back on track
 - Lost focus
 - Not using as a platform for criticizing VDH/OEHS
2. SHADAC Training
 - conflict of interest class for members (exam)
 - State required training (VDH?: Is this available)
3. Procedures
 - Public comment

Internal VDH Policies/Processes – 9 Total Votes

1. Local HD processes for staff (5 votes)
 - Rappahannock HD Loading Rate Chart
 - Consistency between districts
 - local policies not supported by local ordinance
2. QA/QC (2 votes)
 - sharing info w/ SHADAC
 - Internal Level 1 & 2 reviews
 - 10% Level 2 reviews private (subdivisions)
3. Professional liability risk for VDH (2 votes)

Data – 1 Total Vote

Report O&M of Alt. systems & Alt. Discharging systems – 3 Total Votes

1. i.e. compliance rates
2. Failures/functioning as designed. (3 votes)

Soils – 0 Votes

1. Is a soil horizon w/ a slower rate w/in 18" a restriction? –mounding calcs?

GMP 2015-01 – 7 Total Votes

1. Timeline for processing private apps over bare apps. (2 votes)
2. Co-inspection
 - Who is right?
 - What happens w/ disagreements?
3. Survey Requirements (4 votes)
 - simple repairs
 - Is it "legal" to use a surveyor's plat and mark on it if his seal is remains on it? (1 vote)
4. Elimination of abbreviated design form.
 - Do AOSE's still have to show calculations?

Licensure – 1 Total Vote

1. Provision for seal/e-seal
 - VDH OSE signatures
 - Electronic signatures
2. Use of previous soil work
3. Lack of visible professional responsibility (1 vote)
4. Transfer of ethics & admin to DPOR

Duel Standard – 0 Votes

1. Use of VDH forms required for VDH staff, not private sector
2. VDH OSE's have to meet WPE, only recommended for private sector.
3. VDH – OSE liability

Conflicts of Interest - 4 Total Votes

1. Designers that Rep Products (4 votes)

Standard of Practice – 5 Total Votes

1. VDH
2. AOSE
3. PE

Privatization – 5 Total Votes

1. VDH providing direct services (5 votes)
 - For sale inspection
 - Water samples

Regulatory Review -12 Total Votes

1. Treatment
 - a. Appropriateness of NSF 40 vs. NSF 245
 - b. Appropriateness of nitrogen requirements (4 votes)
 - measuring success of nitrogen requirements
 - c. Conventional systems getting a pass in Ches. Bay (5 votes)
 - d. Assessing benchmark for performance
 - BOD, TSS, are there more appropriate standards
 - e. Product review & approval adds cost, no benefit to consumer (1 vote)
2. Revising regs to design based on hazard/risk
3. Incorporate GMP's into regs
4. Combined SHDR & AOSS Regs

Disclosure Document – 0 Votes

1. Suggested edits/additions
2. Measuring success of strategy

Waivers & Variances – 0 Votes

**Virginia Department of Health (VDH)
Safety and Health In Facilitating a Transition Implementation
Frequently Asked Questions (FAQs)**

*VDH FAQ's – Address questions that may only be relevant to VDH staff.

DISCLOSURE DOCUMENT

VDH FAQ: Can we modify the disclosure document to fit our local policy for requiring a private Onsite Soil Evaluator (OSE)/Professional Engineer (PE)?

Contact OEHS if you need to provide a disclosure for a local ordinance.

WEBSITE

It would be helpful to include “areas served” on the service provider website.

OEHS will look into whether that is a viable possibility. While services providers may typically work within certain “areas served,” they may be willing to work outside those areas under special circumstances.

If my business has multiple offices, can I register multiple times on the service provider website, once for each office?

Please contact Lance Gregory at Lance.Gregory@vdh.virginia.gov for assistance to ensure that each of your offices are shown on the service provider website.

Can the service provider website include links to our business website?

VDH has chosen not to include that information at this time.

How often will the service provider website be updated?

OEHS expects to update the list at least quarterly.

New Print Forms

VDH FAQ: What print forms do I use now for bare applications in VENIS?

Use the “Master New EHS Sewage Permit”; the “SITE AND SOIL SUMMARY”; and the “Well Permit”.

The “Master New EHS Sewage Permit” and the “Well Permit” both have a cover page that would be redundant for a combined application. You can discard the duplicate cover page in the “Well Permit” when you have a combined application. We are working on revisions to eliminate the redundant cover page in the future.

You should have 3 signatures total in a septic and well permit package: one on the Sewage System Construction Permit (page 1 of the Master New EHS Sewage Permit form), one on the cover page (page 2 of the Master New EHS Sewage Permit form), and one on the SITE AND SOIL SUMMARY.

VDH FAQ: The Private Well print form needs major revisions.

A revised form is being developed.

GMP 2015-01

General

VDH FAQ: Do VDH staff have to be an OSE to issue a well only permit?

If the design is for a well only, any VDH Environmental Health Specialist (EHS) can perform the sanitary survey and issue the permit, provided that they have completed training and have approval from the supervisor to do so.

Access to records is a major issue. It is a necessary component of a proper sanitary survey. Does this policy improve the private sectors access to records?

Find attached VDH's policy and training for processing requests pursuant to the Virginia Freedom of Information Act.

Will the private sector be given a "grace period" as implementation of this policy is being rolled out?

VDH staff should use their best judgment when working through implementing new aspects of the policy and work with the private sector in finding solutions to issues that arise. The policy, effective January 1, 2015, is intended assist with the implementation of VDH regulations. All onsite sewage system and private well designs and installations must abide by applicable laws and regulations.

Does the policy provide VDH OSE's with discretion to allow or disallow the use of specific materials or products within their bare application designs?

VDH employees have a ministerial duty to approve materials that meet minimum regulatory requirements.

VDH FAQ: Should staff include details about the use of an effluent filter, or list the regulatory options for maintenance on the permit?

Unless warranted by a case specific situation, there is no need to include additional information beyond what is included on the VENIS print form.

VDH FAQ: Should staff provide additional details about approved products for system components (e.g. distribution boxes, septic tanks, etc.)?

Unless warranted by a case specific situation, there is no need to include additional information beyond what is included on the VENIS print form.

Private sector designers should be able to submit projects and pay for applications electronically.

VDH hopes to have such capability in the future. The policy does allow for electronic submission of private sector design packages (i.e. via email).

Does GMP 2015-01 institute the “once-touched” policy statewide (e.g. sites with private sector subdivision evaluation require a private sector construction permit design?)

No.

Have the Authorized Onsite Soil Evaluator Regulations (12VAC5-615) been rescinded?

No. As described in the agency’s background document, VDH does not have authority to enforce 12VAC5-615 so those regulations should not be used for any purpose.

Part I: Background, Scope, General Requirements

C. Definitions.

What is the definition of a “proprietary, pre-engineered system”?

The code does not define the term and there is no definition established in regulation or policy. All applications with supporting work from the private sector are subject to deemed approval or processing times pursuant to Va. Code 32.1-163.6.

What is the definition of a “survey plat”?

Va. Code Section 32.1-176.3 defines a “plat” or “survey plat” as the schematic representation of a parcel of land, showing the property boundaries, the proposed site of the water well, and any potential sources of contamination, prepared by an individual licensed by the Commonwealth to perform such services.” Section 12VAC5-610-460 of the Sewage Handling and Disposal Regulations (SHDR) requires that the perimeter of the soil absorption area site or sites be shown on a copy of a survey plat prior to the issuance of a permit. GMP 2015-01 states that VDH does not prescribe the method or equipment to accomplish surveying of the absorption area, but strongly encourages the use of licensed surveyors.

How is "direct supervision" defined?

The Virginia Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals (WWWOSSP) Regulations defines “direct supervision” as “being responsible for the compliance with this chapter [Title 54.1, Chapter 23] by any unlicensed individual who, for the purpose of obtaining the necessary competence to qualify for licensure, is engaged in activities requiring an operator, installer, or evaluator license.” Guidance from the WWWOSSP dated September 27, 2011, states that “If a licensed onsite soil evaluator has a direct employer-employee relationship or a written contract with an unlicensed individual, the unlicensed individual may perform soil evaluation task without the licensed onsite soil evaluator being present. The licensed onsite soil evaluator will be responsible for the unlicensed individual’s compliance with all applicable laws and regulations.”

What is the definition of a “conventionally approved system” (see 12VAC5-610-255.F)?

A conventionally approved system means something that is not provisional or experimental. With promulgation of 12VAC5-613, VDH no longer lists sewage systems as experimental or provisional; instead, systems are referred to as having general or non-general approval (see 12VAC5-613)

Part II: Applications

B. Construction Permit Applications

VDH FAQ: What happens when VDH staff performs a new site evaluation and finds that a site previously approved to disperse septic tank effluent (subdivision review/certification letter) actually requires treatment under current regulations?

Certification letters and subdivision reviews do not indicate the type of system that will be required when a construction permit is requested, even when the information provided with the letter or review does indicate some expected system type. Certification letters and subdivision reviews do not expire. Regulations may change from the time the letter or review is approved. Certification letters and subdivision reviews only provide a guarantee that some type of onsite sewage system can be permitted at the site. The specific type of system is determined at the time of application for a construction permit.

C. Certification Letter Applications

Can certification letters and subdivision reviews be submitted under 32.1-163.6?

Certification letters are issued pursuant to Va. Code 32.1-163.5 and Va. Code 32.1-164.G (not Va. Code 32.1-163.6). If an applicant demonstrates at least one possible design presently exists, and VDH is adequately confident that the footprint—by survey on a plat of the property—is sufficiently sized to accommodate the requested flow to issue a future construction permit, then VDH will issue the certification letter. Our goal for a certification letter is to confirm that the proposed footprint is large enough to accommodate the flow, given the site and soil conditions, and the treatment and dispersal options outlined in applicable regulations. A conceptual plan, demonstration, or example idea (not a full-blown design plan for a construction permit) is needed to issue the certification letter.

A certification letter only indicates that a site is suitable for an onsite sewage disposal system. It does not need to indicate the type of system for which the site is suitable. How you achieve the required level of treatment and dispersal based on the site evaluation is a design question that will be answered with the design for the construction permit.

VDH FAQ: If a bare application site has a shallow limiting feature, may a VDH OSE estimate the permeability of a soil horizon, size an area appropriately, and then issue a certification letter for a site which under today's rule would require treatment?

Certification letters are issued in accordance with Va. Code §32.1-164.G, which states “[the] Board shall establish and implement procedures for issuance of letters recognizing the appropriateness of onsite sewage site conditions in lieu of issuing onsite sewage system permits. The Board may require that a survey plat be included with an application for such letter.” The agency’s policy for processing a bare application for certification letter is as follows:

- 1) The certification letter must correctly identify that a regulatory compliant footprint exists on the property (e.g., Sewage Handling and Disposal Regulations or AOSS Regulations); whenever staff cannot discern whether a regulatory compliant footprint exists, then staff will deny the application*

- and require an application with supporting private sector work.*
- 2) *The soil loading rate shall comply with Table 5.4 of the Sewage Handling and Disposal Regulations for septic tank effluent; in accordance with attached Table when TL-2 or TL-3 treatment is considered.*
 - 3) *The footprint for the certification letter cannot be located within jurisdictional wetlands; staff may require a wetlands survey when wetlands is a concern or suspected where the footprint for certification letter is identified.*
 - 4) *The footprint must have at least 6 inches of suitable, naturally occurring soil with no soil wetness feature or other soil limiting feature below the proposed trench bottom or proposed installation depth;*
 - 5) *The minimum absorption area size (footprint) must be 400 square feet;*
 - 6) *A survey located plat of the footprint or site is necessary.*

VDH FAQ: Some districts allow their staff to hand-draw the dispersal area for a certification letter on a survey plat. Is that acceptable, or does the dispersal area need to be located on the plat by a surveyor, unless a survey plat waiver is granted?

The dispersal area must be survey located on the plat for certification letters, not hand drawn, unless the survey plat is waived, which should only happen in rare instances.

E. Documentation Required for Site Evaluation Reports.

Is a complete soil report required for a repair where we are just replacing a distribution box?

The necessity of a soil report for a repair permit is determined on a case-by-case basis by the local health department (LHD). In general, soil evaluations are only necessary when delineating a new absorption area or evaluating the adequacy of an existing absorption area.

F. Survey Plats.

Is a survey plat required for a repair where we are just replacing a distribution box?

Yes, or a survey plat waiver.

VDH FAQ: To waive the survey plat requirement we have to make a site visit. Is the time limit (e.g. 15 days) waived?

No.

How does VDH implement scale drawings when a survey plat waiver is granted?

The designer can still use permanent field markers, such as the corners of a house, to triangulate measurements to proposed system components. Those triangulated measurements can be used to generate a scale drawing.

Can a professional engineer submit an engineered design with a survey waiver?

Yes. The LHD must evaluate the request for a survey waiver for that specific case and render a decision.

Can the survey be 100 years old?

Yes.

VDH FAQ: Why wouldn't every private OSE/PE include a survey waiver request with their application to keep their clients expenses down?

A plat waiver is not automatic. The policy affords applications with supporting work from the private sector the same ability to request a plat wavier as bare applications. LHD decisions to grant or deny waiver request should be consistent for both bare applications and applications with supporting work from the private sector.

G. Denials of Applications (not a principal place of residence):

Why does the property have to be the principle place of residence to receive a refund?

Va. Code Section 32.1-164.C states that if VDH denies a permit for land on which the applicant seeks to construct their principle place of residence, then the permit fee shall be refunded to the applicant. No such provision is provided within the Code when the application is not for a principle place of residence. Although not afforded the potential for a refund, such applicants can still submit a second application within 90 days without paying a fee, or they can appeal the decision to deny the application.

I. Prioritizing Applications

What is the current average turnaround time bare applications, and for applications with supporting work from the private sector?

Contact Lance Gregory at (804) 864-7491 for a statewide report, or your local health department for a local report.

Does a system have to be failing for it to be a priority Level 1 application (e.g. issues that fall in between maintenance and a malfunction)?

Only the district staff and management can make an accurate determination of what priority to assign a particular application.

Will applications with supporting work from the private sector be processed according to the timeframes specified in the Code of Virginia (e.g. 15 days), or will they be processed according to the VDH QA/QC policy (95% within 5 days)?

The time-lines in the QA/QC policy help districts indentify bottlenecks in processing applications and determine how to improve timeliness. The QA/QC policy does not specify that private sector applications must be completed within 5 days – although the policy does encourage districts to strive for improvement beyond the Code imposed deadlines for processing applications.

Why are voluntary upgrades listed below certification letters?

Voluntary upgrades are just that, voluntary. Therefore, higher priority public health situations (e.g. repairs) and other processes mandated by the Code receive priority.

J. Work Product Expectations:

VDH FAQ: Part II, Section J.4 seems to create a conflict with the survey plat requirement. Can VDH OSEs hand draw the dispersal area location on the survey plat for construction permits?

The SHDR states that prior to the issuance of the construction permit the perimeter of the absorption area must be shown on a copy of a plat. (Caution: if photocopying a plat, be sure that the scale is still accurate). Therefore, VDH OSEs and private sector designers alike can elect to hand draw the perimeter of the absorption area on a copy of the plat rather than having it survey located. However, this caveat does not apply to certification letters. The absorption area for a certification letter needs to be surveyed onto a plat because the site may not be touched again for 20 years, whereas construction permits require action within 18 months. Construction permits also include a detailed drawing of the proposed system not required for certification letters.

VDH FAQ: What is necessary to ensure accurate measurements from private OSEs/PEs (e.g. measurements less than 200 feet, tie down drainfield corners)?

The information necessary to ensure accurate measurements will vary.

Is it acceptable to measure along a property line and then use a right angle to that property line to get the second measurement?

Triangulation is the expected method to ensure accurate measurements. The use of a right angle is not.

Part III: VDH Review

A. Application Review.

What is meant by “the denial must be linked to the appropriate OSE/PE using VENIS”?

This is to make sure VDH staff include the appropriate OSE/PE information in the “Evaluated by” and “Designed by” fields in VENIS, linking the OSE/PE to the specific design submittal in the database.

Is a Level 1 review required for all private sector designs?

A Level 1 review is expected for all private sector designs.

VDH FAQ: Can VDH waive a level 1 review and issue the permit before it becomes deemed approved on day 15?

A Level 1 review is expected for all private sector designs.

Will the LHD be mailing, emailing or faxing the permit approval/denial and review forms to the OSE/PE?

You can provide information electronically, in addition to paper copies.

How long has VDH been using the Level 1 and Level 2 review forms? Who created them?

The Level 1 and Level 2 review forms were created in 2006-2007 by a committee of VDH staff tasked

with development of the QA/QC policy.

Please discuss the following sentence: “If for whatever reason, the Department’s permit is different from that certified by the OSE/PE, the Department shall also include a copy of the permit, and an explanation of the revision(s), in addition to the approval letter so that all differences are readily identified.”

This section was included for instances where LHD staff and a private OSE/PE agree on revisions to a design and the revisions are subsequently marked on the permit by the LHD.

If an EHS calls a private OSE/PE and property owner for a Level 2 field review and the OSE/PE or the owner asks to reschedule the site visit, does the EHS have to change the site visit date (e.g. designer/owner requesting a site visit after that date the permit would become deemed approved)?

VDH staff should make an effort to work with property owners and private OSE/PEs when scheduling Level 2 field reviews.

B. Revalidating Expired OSE/PE Permits; Relying on Previous Certifications.

How long of an extension will be granted?

The permit will be extended 18 months from the original expiration date. See Va. Code Section 32.1-164.1:1.

If building has not commenced is a new application, fee, and OSE/PE package required?

No new application and fee is required.

How many times can a permit be extended?

One time.

If a permit was issued before December 7, 2013, for an AOSS located within the Chesapeake Bay watershed, can the permit be extended if the original application doesn’t include nitrogen removal?

Yes.

Is a letter of approval from the design OSE/PE required before the extension is granted?

No.

Does the term “new certifications” mean a new application and new fee is required?

Yes. This item is intended to clarify that certain requests to revalidate an expired permit cannot be granted and will require a new application and fee. An example would be when the applicant is proposing to increase the number of bedrooms from what was allowed under the expired permit.

C. Design Changes

Can documentation of design changes be submitted with the completion statement?

Yes.

Did VDH consider the additional cost to applicants when requiring a new application and fee to move

a well?

The process does not create a new cost because a valid permit was already issued. Moving the well requires the issuance of a new permit. However, District Environmental Health Managers can allow minor deviations to proposed well locations without a new application or fee on a case-by-case basis.

Is a new well permit application required or is a combined permit application required to approve a well site?

Only a well permit application, unless the proposed well site will also require modification of the approved onsite sewage disposal site.

Can a designer propose multiple well sites/areas on one permit? If so, can the different areas be for different well classes?

Permitting of multiple well sites/areas is acceptable. When multiple well areas are proposed, each of the well areas must meet the requirements of the Private Well Regulations.

VDH FAQ: Is there an expectation that “design changes” will be acknowledged with a new approval letter listing revision dates and using the same expiration date as the original permit?

No, VDH staff will not issue a revised permit approval letter for minor design changes. The OSE/PE must ensure that all parties are aware of changes. If VDH staff find that the proposed design changes do not comply with the regulations or GMP 2015-01, then they must notify the OSE/PE immediately. Notification must be in writing with appropriate due process offered.

Part IV: Final Inspections

A. General Requirements and Expectations:

Are VDH staff now expected to inspect all private wells on private OSE/PE designs?

That expectation existed prior to this policy (see the PWR Implementation Manual). The policy creates a new expectation that the private OSE/PE will also perform an inspection.

Does the 10% Level II construction inspections mean 10% of each individual OSE/PE’s submissions or 10% of all OSE/PE submissions combined?

The expectation is 10% of the total number of OSE/PE submissions. However, districts are encouraged to disperse reviews as evenly as possible among individual OSE/PEs and installers.

Where is the authority for VDH construction inspection of OSE permits?

*Va. Code Section 32.1-164.1.E states: “Whenever a construction permit has been issued pursuant to an evaluation and design certified by a licensed professional engineer or onsite soil evaluator, the certifying licensed professional engineer or onsite soil evaluator shall inspect that system at the time of installation and provide an inspection report to the Department. **The Department may, but is not required to, inspect the installation of such onsite sewage system.**” [emphasis added]*

If a private OSE/PE does not indicate on their inspection form that they have inspected/approved the well, would VDH hold up the operation permit? The policy just says that OSE/PEs are “expected” to perform a final inspection of the well.

These situations should be handled on a case-by-case basis.

Can the well drillers be required to do an as-built to alleviate the need for the OSE/PE to perform an inspection?

The OSE/PE inspection statement certifies compliance with all applicable regulations. The OSE/PE must determine what information and site inspections are necessary to certify.

Would the private OSE/PE be responsible to ensure casing depth, grout depth, and water quality (i.e. will the OSE receive a copy of the Uniform Well Water Completion Report)?

The LHD will make the final determination regarding approval of the well based on an evaluation of the Uniform Well Water Completion Report.

Is the Level 2 construction inspection more for reviewing the contractors work or the OSEs work?

The Level 2 construction inspection ensures proper installation of the system. The installer and OSE/PE may agree upon design changes that VDH is not aware of before VDH's inspection. Those changes have to be noted prior to issuance of an OP, so it is possible that VDH's inspection might identify changes that are not yet documented in the file or permit.

Who is responsible for contacting VDH for the Level 2 construction inspection?

LHD staff should work with designers and installers in their area to establish acceptable local processes. A best management practice could be for the installer to call the LHD at least 48 hours in advance to let staff determine whether they will participate in a Level 2 construction inspection. It would also assist communication if the OSE/PE calls the LHD the day before the install to verify that LHD staff plan on performing a Level 2 construction inspection and to set up a time for a joint inspection.

If VDH comes out to perform a Level 2 inspection does all liability go to VDH?

Staff should adhere to policy and regulation to avoid concerns about liability.

What is VDH going to collect during the Level 2 construction inspection? What if the installation is not finished when VDH staff arrive or the system was already approved by the OSE/PE and covered up?

Staff will inspect all visible components of the system, location, and record installation observations.

VDH FAQ: The policy says that sewage system installers “should always notify” the LHD prior to installation, while well drillers “shall notify” the LHD prior to installation. Do we have any more or less authority to require prior notification of an installation from a sewage system installer versus a well driller?

No. The expectation to notify the LHD prior to construction is the same for both.

What happens if contractors don't call the LHD prior to installation of an onsite sewage system or well?

OEHS and LHD staff will work to improve awareness of this expectation.

FORMS GENERAL

Are private sectors designers required to use the forms attached to GMP 2015-01?

Many private OSEs/PEs use their individual forms that provide the same information, which is acceptable.

Can private OSE/PEs adopt the new form templates into our design package programs?

Yes. If you would like a copy of the forms in Word format rather than PDF, please contact Lance Gregory at lance.gregory@vdh.virginia.gov.

Form 2: Cover Page

Does the Department of Professional and Occupational Regulations recognize an electronic licensed designer's signature?

If you have concerns regarding an electronic signature, VDH encourages you to contact DPOR to discuss this matter as they are the agency with regulatory oversight over licensees. However, VDH doesn't believe electronic signatures will present an issue for either of OSEs or PEs.

Form 8: Example system specifications worksheet

The policy mentions numerous calculations to be shown in the permit, but there is no specific design form.

The previous System Specifications form and Design Calculations form have been combined into the new System Specifications form. However, additional calculations not provided on the System Specification form may be necessary (e.g. calculations related to the design of drip dispersal systems). Many of these additional calculations include numerous variables making the use of a standardize form(s) difficult. In cases where additional design calculations are required, the calculations should be provided in a format determined by the OSE/PE.

I'm confused about the Septic Tank Capacity/Size of Septic Tank(s) lines in the Pretreatment Unit(s) section.

The "Septic Tank Capacity" is the total capacity of all the septic tanks in the design (design may include multiple tanks in series). The "Size of Septic Tank(s)" is the proposed size for each individual tank. Notes will be added to the PDF forms to help explain the intent of each field.

Form 9: Example private well specification worksheet

Are the distances shown on the form supposed to be the minimum requirements of the regulations or the actual distance in the proposed design?

The OSE/PE has discretion. This information is also covered as part of the construction drawing, since all sources of contamination must be identified within 200 feet.

Form 10: Example private well abandonment specification worksheet

Has there ever been a concrete policy issued on how close septic components and absorption areas can be set after a bored well has been properly abandoned?

Bored and uncased wells abandoned in accordance with the Private Well Regulations must be treated as wells with respect to determining the minimum separation distance to sources of contamination. However, 12VAC5-630-450.C.7 allows for other abandonment procedures to be approved by the division on a case-by-case basis.

Form 11: Request for Survey Waiver

Is this form just used by VDH staff or do OSE/PEs use this as well when clients do not want or cannot afford to survey?

This form is used for any application where the owner is requesting a survey waiver, whether bare application or with supporting work from an OSE/PE.

Form 12: Verification of Sewage System Location

When would the "Verification of Sewage System Location" be used?

Any time that a survey waiver is granted, the owner must submit a signed "Verification of Sewage System Location" form before they can receive an operation permit.

Does this form allow the owner to get an operations permit without an inspection report from the OSE/PE or completion statement from the installer?

No.

Form 14: Malfunction Assessment

Is the malfunction assessment form required for voluntary upgrades and simple repairs, such as replacing a distribution box?

The malfunction assessment is required for all repair permit applications, not voluntary upgrades. The intent is to ensure that before issuing a repair permit, the system is evaluated to determine the condition of the system. Some of the items on the malfunction assessment will not be applicable to each and every situation.

Do private sector designers have to fill out the malfunction assessment? I'm not trying to turn in my client for having a failing system.

By submitting a repair application you are alerting VDH that the system serving the property is failing. Filling out the malfunction report does not increase or diminish the owner's requirement to have a functioning sewage system. VDH expects the malfunction assessment be filled out for all repairs.

VDH FAQ: Are there plans to update VENIS's malfunction assessment?

<p><i>Yes.</i></p>
<p>VDH FAQ: Does VDH staff need to fill out the form for bare application repair permits?</p>
<p><i>Yes, and then enter that information into VENIS.</i></p>
<p>Are AOSS operators required to fill out this form when they are servicing an AOSS system and repairs are needed?</p>
<p><i>No, operators would capture this type of information in their O&M report.</i></p>
<p>What is going to happen with the malfunction assessment data? Will it be available to public?</p>
<p><i>This information will be used to better understand the causes of sewage system failures in the Commonwealth and evaluate regulation and policy effectiveness.</i></p>

Removed From Policy

<p>If VDH only receives one copy of the design package, what are VDH staff required to give back?</p>
<p><i>Nothing. The OSE/PE permit print forms in VENIS will be revised to direct owners to the plans they have received from their OSE/PE rather than “the attached drawings, specification, and calculations”. VDH can provide additional copies pursuant to FOIA.</i></p>
<p>If VDH is not providing a copy of the permitted design package, how will the owner/installer know that they have the correct design package?</p>
<p><i>The permit approval letter will still reference the date of the approved plans. The OSE/PE must ensure that all interested parties receive a copy of the approved plans.</i></p>
<p>Without requiring an abbreviated design form, how will VDH review packages for sites where the regulations require water mounding or other calculations to assure that a permit can be issued?</p>
<p><i>VDH will evaluate the treatment level, footprint, loading rate, and other calculations as needed to confirm a sewage system could be designed in accordance with 12VAC5-610 and 12VAC5-613. If you do not receive adequate information to identify whether a sewage system could be designed in accordance with the regulations, then ask for the additional information needed. However, a complete design should never be necessary for a certification letter.</i></p>

April 16, 2015

MEMORANDUM

TO: District Health Directors
Environmental Health Managers
Office of Environmental Health Services Staff
VPI Contract Soil Scientists
Onsite Soil Evaluators
Professional Engineers

THROUGH: Marissa J. Levine, MD, MPH, FAAFP
State Health Commissioner

THROUGH: Allen Knapp, Director
Office of Environmental Health Services

FROM: Dwayne Roadcap, Director
Division of Onsite Sewage and Water Services, Environmental Engineering
and Marina Programs

SUBJECT: GUIDANCE MEMORANDUM AND POLICY 2015-02: Variances to the
Requirements for Direct Dispersal of Effluent to Ground Water

Purpose and Scope:

This policy is established to provide economic relief to owners seeking to improve existing sewage systems, either through repairs or voluntary upgrades. The policy waives certain regulatory requirements to remove financial barriers to improving existing sewage system treatment levels allowing for greater protections of public health and the environment. Variances from 12VAC5-613-90.C (1-4), (6-7), 12VAC5-613-90.D.4, and 12VAC5-613-100.G as described below are established for existing development. Upon request, any owner with an onsite sewage system currently dispersing effluent to ground water with a design flow of 1,000 gallons per day (GPD) or less, and who files an application to repair or voluntarily upgrade a sewage system, shall receive a variance from the applicable sections listed above; provided no other viable, regulatory compliant option exists, except direct dispersal to ground water. In

addition to variances established by this policy, a property owner may request a variance to other regulations not described in this policy pursuant to 12VAC5-610-190.

Authority:

Va. Code Section 32.1-12 authorizes the Board of Health (Board) to make, adopt, promulgate, and enforce regulations that protect, improve, and preserve public health and the environment for the general welfare of the citizens of the Commonwealth. Va. Code Sections 32.1-164 A and B authorize the Board to adopt regulations governing the collection, conveyance, transportation, treatment, and disposal of sewage, including sewerage systems and treatment works as they affect public health and welfare. Va. Code Section 32.1-20 vests the Commissioner with all of the authority of the Board when not in session, and Va. Code Section 32.1-16 provides that the Virginia Department of Health shall be under the supervision and management of the Commissioner of Health. Pursuant to authority to regulate sewage systems, the Board enacted 12VAC5-610-190 which states the Commissioner may grant a variance from the regulations when a thorough investigation reveals the hardship imposed by the regulations, which may be economic, outweighs the benefits received by the public, and the variance does not subject the public to unreasonable health risks.

Background:

The Alternative Onsite Sewage System (“AOSS”) Regulations at 12VAC5-613-10, et seq. establish treatment and operational requirements for alternative sewage systems, including those that disperse treated sewage effluent into ground water (also known as “direct dispersal”). These regulations were enacted as direct dispersal presents a significant public health concern since viruses and bacteria move easily in saturated soil conditions; possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.¹

The AOSS Regulations (12VAC5-613-10,et.seq.), effective December 7, 2011, contain a number of performance and operational requirements to address the public health risks associated with direct dispersal. Under the AOSS Regulations, a sewage system for new construction may be designed to avoid direct dispersal by use of a mound or other elevated structure sufficiently above the water table. Existing sewage systems that fail, however, often present the problem that the only viable option for repair is to continue to directly disperse treated effluent to ground water, especially in the coastal plain region of the Commonwealth where site and soil conditions are constrained by high water tables. After enactment of the AOSS Regulations, the Department discovered owners attempting to repair failing dispersal systems were unable to meet the stringent requirements due to financial hardships, and sought many individual variances to install reasonably priced repairs.

¹ Direct dispersal can also present threats to the environment and in [12VAC5-613-90.C](#), the AOSS Regulations recognize the Department of Environmental Quality’s Ground Water Standards (9VAC25-280) and establish stringent performance and operational requirements.

Similarly, many owners seeking to voluntarily upgrade sewage systems directly dispersing effluent were prevented from doing so, due to the prohibitive costs involved in meeting current regulatory standards, and also sought variances from the Department. Under current regulations, if an owner of a non-failing sewage system chooses to install a voluntary upgrade including additional treatment or pressure dosing, the new system must comply with the AOSS Regulations; as a result, certain operational requirements are triggered which the Department of Planning and Budget estimates will cost \$800 to \$2,500 annually (see Page 5, [DPB Economic Analysis of the Regulations](#), October 4, 2010). Through this policy VDH wants to encourage owners to improve sewage systems to be more protective of public health and the environment.

While direct dispersal requirements are appropriate for new development due to the high risks to public health and the environment associated with dispersing effluent to ground water, the cost of complying with those requirements can be a barrier to improving an existing system already dispersing effluent into the ground water. A repair or a voluntary upgrade may not meet the stringent requirements of the AOSS Regulations, however it does decrease the public health risk by either allowing for the correction of a failing system, or upgrading a system to improve system performance and decrease environmental impact.

Further, processing individual variance requests takes time, which can increase costs when a seller and buyer are waiting to install the voluntary upgrade as part of a real estate transaction. For a repair, time is of the essence but the owner must wait for the variance to be considered before proceeding with construction, especially since a conventional system could be installed with a waiver pursuant to [Va. Code Section 32.1-164.1:1.B](#).² VDH's goal is not to intentionally delay the variance or permitting process, but to ensure the Commissioner is given the full range of options and information in order to weigh the risks of granting variances against the costs associated with the specific regulatory requirements. After consideration of the variances already granted regarding direct dispersal, the most efficient approach for the agency is to institute a statewide policy that will reduce or eliminate the need to process individual variance requests for the repair or voluntary upgrade of direct dispersal sewage systems. Following issuance of this policy, the agency will institute a regulatory action to remove the treatment expectations of direct dispersal for existing infrastructure due to the economic hardship to owners, when the only viable alternative is direct dispersal.

Discussion of Performance and Operations Requirements:

The AOSS Regulations protect drinking water supplies and water quality by setting a limit of 5 mg/l total Nitrogen ("N") at the project boundary for large AOSSs (see 12VAC5-613-90.B). This same limit (less than or equal to 5 mg/l N) is also applied to systems dispersing treated effluent directly into ground water. Otherwise, AOSSs discharging 10,000 GPD or less per day must provide a 50 percent reduction of N. The nitrogen removal requirements ranges

² With a waiver pursuant to [Va. Code Section 32.1-164.1:1.B](#), an owner has the option to install a conventional system and temporarily avoid additional wastewater treatment or pressure dosing. In such cases, the owner avoids requirements of the AOSS Regulations but the sewage system will not provide the same environmental and public health protection as one with advanced wastewater treatment and engineered pressure dosing.

from 50 percent removal for single-family homes to over 90 percent for systems over 10,000 GPD (see Table 1).

There are two main reasons for a total N limit. First, excess nitrogen can cause methemoglobinemia, or blue baby syndrome, when concentrations rise above 10 mg/l in drinking water. Next, N is a pollutant that causes environmental problems, such as algal blooms and eutrophic water conditions. Excess nutrients and sediments pollute the Chesapeake Bay and in December 2010, the United States Environmental Protection Agency (EPA) established a total maximum daily load (TMDL) for N, which included a N limit from onsite sewage systems. Although onsite sewage systems contribute less than 5 percent N pollution to the Chesapeake Bay, the Commonwealth of Virginia's Phase I and Phase II Watershed Improvement Plan to the EPA agreed to require AOSS in the Chesapeake Bay to reduce N by 50 percent.

When the AOSS Regulations were promulgated, EPA provided limited information on how N reductions would be implemented in the TMDL. The Board of Health delayed the effective date of 12VAC5-613-90.D for two years to: (1) allow more time to understand EPA's evolving TMDL, (2) give stakeholders time to prepare for future N reductions, (3) allow the legislature time to reflect on the requirements and change if necessary, and to (4) provide more time to evaluate the economic impacts of the requirements. 12VAC5-613-90.D took effect on December 7, 2013. Since then, a number of designers have reported difficulty designing AOSS that comply with the more stringent requirements, especially for existing construction requiring direct dispersal of treated effluent to ground water. Additionally, the Commissioner has received and granted numerous variance requests to the AOSS regulations for direct dispersal due to the economic hardship imposed.

Performance Requirements:

The AOSS Regulations at 90(C) (3)³ for direct dispersal systems require effluent quality from the treatment unit or system have Biochemical oxygen demand, five-day ("BOD5") and Total Suspended Solids ("TSS") concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml; and Total Nitrogen ("TN") less than 5 mg/l. The AOSS Regulations at 90(D) (4) for direct dispersal systems in the Chesapeake Bay Watershed require effluent quality from the treatment unit or system have a TN less than or equal to 3 mg/l and Total Phosphorus ("TP") concentration of less than or equal to 0.3 mg/l. This policy will allow a variance for direct dispersal repaired or voluntarily upgraded systems that require a 50% reduction TN, as compared to a conventional gravity drainfield system, in accordance with 12VAC5-613-90 (D) (1)⁴; and Treatment level 3 effluent ("TL3") and standard disinfection in accordance with 12VAC5-613-80(13) (Table 2) for other AOSS systems not defined as direct dispersal, but have less than twelve inches separation to ground water.

³ Received DEQ concurrence on May 14, 2014, for waiver of 90(C)(1).

⁴ See GMP 156 for further information on best management practices recognized by the Division.

These requirements preserve the quality of the existing environment and ground water, if not significantly improving it, and are justified by the economic hardship to property owners to fully comply with the AOSS regulations for existing direct dispersal systems.

Table 1.
Nutrient removal requirements for AOSS

Direct Dispersal of Effluent to Ground Water?	Location within Virginia	Average Flow of Treatment System (gallons per day)	Total Nitrogen (TN) Requirement	Disinfection Required?	Total Phosphorus (TP) Requirement
No	In Chesapeake Bay Watershed	$\leq 10,000$	50% reduction <u>or</u> 20 mg/L prior to the <i>point of application</i>	No	N/A
		$> 10,000$	8 mg/L prior to the <i>point of application</i>	No	N/A
	Anywhere	$> 1,000$	5 mg/L at the <i>project area boundary</i>	No	N/A
Yes	Outside Chesapeake Bay Watershed	Any size	5 mg/L prior to the <i>point of application to the soil</i>	Yes	N/A
	Within Chesapeake Bay Watershed	Any size	3 mg/L prior to the <i>point of application to the soil</i>	Yes	0.3 mg/L

Discussion of Operational Requirements:

Operational requirements for direct dispersal AOSS are discussed in 12VAC5-613-90(C) (2), C(6), and 12VAC5-613-100(G)(1), which include remote monitoring and quarterly sampling. When a waiver pursuant to this policy is granted, the repaired or voluntarily upgraded system will be monitored in accordance with 12VAC5-613-100(D) or (E) dependent upon whether the system is generally approved or non-generally approved as required by 12VAC5-

610-447 and 12VAC5-610-448. The minimum frequency of operator visits shall be in accordance with 12VAC5-613-150 Table 4 for systems less than 1000 gallons per day.⁵

Procedure for Granting and Acknowledging the Variance or Waiver:

When an owner submits an application for an existing direct dispersal system with supporting private sector work to the local health department to construct a repair or voluntary upgrade, the owner may receive a waiver or variance from treatment as outlined in this policy, and as provided by Va. Code Sections 32.1-164.1:1 and 32.1-164.1:3 if requested.⁶

The Regulations, at 12VAC5-610-190(C), require that applicants include certain items in the application for the variance. The Regulations, at 12VAC5-610-190(D), identify certain items that the Commissioner must consider to evaluate a request for a variance. Only complete variance requests are accepted pursuant to this policy.

The Commissioner evaluates, considers, and grants or denies a request for a variance by relying on staff to gather complete, relevant, and accurate facts. This policy is consistent with the Commissioner's routine and historical practice for evaluating variance requests. Staff will identify the relevant facts and ensure that certain preset standards established by the Commissioner exist (see preset standards below). In developing the preset standards for the evaluation of variances requests, the Commissioner considered the factors listed in 12VAC5-610-190.C. The Environmental Health Manager or District Health Director shall report to the Commissioner regarding the variance application's compliance with the Commissioner's preset standards. The Commissioner will grant the variance application provided the following preset standards are met:

1. The AOSS designer and property owner affirm direct dispersal to ground water is the only viable option given financial resources and the site and soil conditions.
2. Without a waiver pursuant to Va. Code Section 32.1-164.1:1, the AOSS must disperse at least TL-3 effluent with disinfection, and provide at least 50 percent reduction of TN. With a waiver, the AOSS may disperse any treatment level allowed pursuant to Va. Code Section 32.1-164.1:1.
3. Except for treatment and operational requirements for direct dispersal, the design must fully comply with 12VAC5-613.
4. Without a waiver pursuant to Va. Code Section 32.1-164.1:1, the sampling and reporting shall adhere to 12VAC5-613-100.E. With a waiver, the sampling and reporting shall

⁵ A variance from the performance requirements contained in 12VAC5-613-90.C is not required when the owner requests a waiver pursuant to Va. Code Section 32.1-164.1:1; however, the owner must still adhere to operational requirements unless a variance is sought (see (12VAC5-163-100.G). See Guidance Memoranda and Policy 155 or successor policy for more information about waivers.

⁶ If an owner requests a waiver pursuant to Va. Code Section 32.1-164.1:1, variances to operational requirements for direct dispersal will be granted, provided the existing sewage system was legally installed and permitted. For owners who waive treatment and receive a variance from operational requirements, the reporting frequency for that system shall follow the type of technology approval: general or non-general approval. For owners who request a variance from treatment and operation, the reporting frequency shall follow non-general approval.

adhere to the type of technology approval, general or non-general for small AOSS (see 12VAC5-613-100.D and 100.E).

After finding that all preset standards for a variance exist, then the Environmental Health Manager or District Health Director shall inform owners of the Commissioner’s variance from requirements found in 12VAC5-613-90.C, 12VAC5-613-90.D.4, or 12VAC5-613-100.G using the letter templates in Appendix A and B. If the preset standards do not exist, then staff should refer the complete case file to the Office of Environmental Health Services for further processing of the variance request.

**Table 2:
Requirements
Existing sewage system up to 1,000 GPD
Repair or voluntary upgrade consisting of AOSS with direct dispersal**

<p>Owner requests waiver from treatment and a variance from the O&M requirements for direct dispersal.</p>	<p>Treatment Level</p>	<p>O&M Requirements</p>
	<p>Owner can choose any treatment level with waiver. No variance is required.</p>	<p>O&M requirements follow the requirements of the technology approval (general or non-generally approved)</p>
<p>Owner requests variance from treatment and O&M requirements for direct dispersal.</p>	<p>Treatment Level</p>	<p>O&M Requirements</p>
	<p>Variance Conditions:</p> <ol style="list-style-type: none"> 1. TL-3 + Disinfection 2. 50% TN reduction 	<p>O&M requirements must follow the reporting and sampling frequency for non-generally approved technology.</p>

Appendix A: Letter to owner who receives Waiver from treatment and Variance from operational requirements.

<INSERT DATE>

<INSERT OWNER NAME>

<INSERT ADDRESS>

Dear <INSERT OWNER NAME>

RE: <INSERT PROPERTY IDENTIFYING INFORMATION>

I am responding to your request for a variance from the operational requirements of 12VAC5-613-90.C, and 12VAC5-613-100.G of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, “the Regulations”).⁷ These regulations establish performance and operational requirements for an alternative onsite sewage system (AOSS) that disperses effluent (or partially treated sewage) directly into ground water. Direct dispersal to ground water presents a significant public health concern as viruses and bacteria easily move in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is not properly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <INSERT TREATMENT LEVEL AND DESCRIBE THE EXISTING SEWAGE SYSTEM>. On <INSERT DATE>, you requested a construction permit to install a <INSERT APPLICATION TYPE>, which meant your existing sewage system <INSERT “was” or “was not” AS APPROPRIATE> failing. In addition, you asked for, and received, a waiver pursuant to Va. Code Section 32.1-164.1:1.⁸ With the waiver,

⁷ 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day (“BOD₅”) and Total Suspended Solid (“TSS”) concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen (“TN”) concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

⁸ Va. Code Section 32.1-164.1:1 states, in part, the following: “Further, whenever any onsite sewage system is failing, or an owner has elected to voluntarily upgrade an onsite sewage system pursuant to § 32.1-164.1:3, and it is on or serves real property consisting of not less than one nor more than four dwelling units and the Board's regulations impose (i) a requirement for treatment beyond the level of treatment provided by the existing onsite sewage system when operating properly or (ii) a new requirement for pressure dosing, the owner may request a waiver from such requirements. The Commissioner shall grant any request for such waiver, unless he finds that the

you do not need to disperse <INSERT TREATMENT LEVEL>, except that the designer proposed additional treatment or pressure dosing (see Table 2, 12VAC5-613-80). When installing a <INSERT “repair” or “voluntary upgrade” AS APPROPRIATE> with a waiver, you are not required to comply with the treatment requirements of the Regulations as long as the sewage system works properly and does not fail.

The <INSERT “repair” or “voluntary upgrade” AS APPROPRIATE> replaced your existing sewage system and consisted of a <INSERT DESCRIPTION OF NEW DESIGN, INCLUDING ABSORPTION AREA>. <FOR VOLUNTARY UPGRADE, INSERT THE FOLLOWING: “In your request you stated that you were not experiencing any difficulty with your existing sewage system. This presents a unique problem. Normally, a variance is granted when the regulations present a specific hardship that outweighs the benefits of complying with the Regulations. In this case, there is no hardship because you did not have to install the voluntary upgrade. You could have continued using the existing sewage system, which was functioning properly. Nevertheless, I believe that installing the voluntary upgrade will likely have a positive effect to ground water and public health. In other words, while the voluntary upgrade is less than ideal because it does not fully comply with the Regulations, it remains a better alternative as compared to the existing sewage system.”>

You are requesting a variance to the renewable operating permit, remote monitoring, and increased sampling frequency for direct dispersal to ground water.⁹ You indicate the additional operational requirements imposed by 12VAC5-613-90.C.2, 12VAC5-613-90.C.6, and 12VAC5-613-100.G pose an economic hardship. The Department of Planning and Budget estimates the additional operational costs to be \$800 to \$2,500 annually.¹⁰

After consideration of the facts and circumstances germane to your request, I have determined your proposal qualifies for a variance established by the Commissioner of Health through Guidance, Memoranda and Policy #2015-02. You are not required to sample quarterly, remotely monitor, or receive a renewable operating permit. However, you must sample the AOSS in accordance with <INSERT “12VAC5-613-100.D” or “12VAC5-613-100.E” AS APPROPRIATE>, which describes the sampling frequency for a <INSERT “generally treatment device” or “non-generally approved treatment device” AS APPROPRIATE>. < FOR GENERAL APPROVAL STATE “Under 12VAC5-613-100.D an initial sample shall be

system was installed illegally without a permit. Any such waivers shall be recorded in the land records of the clerk of the circuit court in the jurisdiction in which the property on which the relevant onsite sewage system is located. Except as provided in subsection C, waivers granted hereunder shall not be transferable and shall be null and void upon transfer or sale of the property on which the onsite sewage system is located. Additional treatment or pressure dosing requirements shall be imposed in such instances when the property is transferred or sold.”

⁹The Regulations require quarterly sampling and remote monitoring for direct dispersal to groundwater. See 12VAC5-613-100.G. By requesting the waiver, the requirements of 12VAC5-90.C.3 and 4, and 12VAC5-613-90.D.4 are waived so a variance is not necessary. Since a construction permit has already been issued, and the system installed, variances from 12VAC5-613-90.C.7 and 12VAC5-613-200.5 are not needed. A variance to 12VAC5-613-90.C.1 is also not needed because the existing sewage system already disperses effluent into groundwater.

¹⁰ See Page 5, DPB Economic Analysis of the Regulations (October 4, 2010):

http://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\58\3184\5632\EIA_VDH_5632_v1.pdf

collected within 180 days of system operation. Thereafter, a sample is required once every five years.” or FOR NON-GENERALLY APPROVED STATE “Under 12VAC5-613-100.E, you are required to sample the system quarterly for two years, after which, the sampling frequency can revert to once every five years if the mean of the samples shows that the treatment complies with TL-3.”>

This variance is effective 15 days from your receipt of this letter, is not transferable, and is null and void if the <INSERT “repair” or “voluntary upgrade,” AS APPROPRIATE> fails.¹¹ If you have other information the Commissioner should consider regarding the conditions set forth in this variance, please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5th Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me <EH Manager or Health Director>.

Sincerely,

<EH Manager or Health Director>

¹¹ 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground’s surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

Appendix B: Letter to owner who receives Variance from treatment and operational requirements.

<INSERT DATE>

<INSERT OWNER NAME>

<INSERT ADDRESS>

Dear <INSERT OWNER NAME>

RE: <INSERT PROPERTY IDENTIFYING INFORMATION>

I am responding to your request for a variance from <INSERT AS APPROPRIATE, 12VAC5-613-90.C, 12VAC5-613-90.D, and 12VAC5-613-100.G.> of the Regulations for Alternative Onsite Sewage Systems (12VAC5-613, “the Regulations”).¹² These regulations establish performance and operational requirements for an alternative onsite sewage system (AOSS) that disperses effluent (or partially treated sewage) directly into ground water. Direct dispersal to ground water presents a significant public health concern as viruses and bacteria easily move in saturated soil conditions, possibly affecting nearby drinking water supplies or shellfish waters. A number of diseases can occur if effluent is improperly treated and dispersed, including shigellosis, hepatitis, gastroenteritis, and cholera.

Your existing sewage system disperses <INSERT TREATMENT LEVEL AND DESCRIBE THE EXISTING SEWAGE SYSTEM>. On <INSERT DATE>, you requested a construction permit to install a <INSERT APPLICATION TYPE.>

The <INSERT “repair” or “voluntary upgrade” AS APPROPRIATE> proposed to replace your existing sewage system consists of <INSERT DESCRIPTION OF NEW DESIGN, INCLUDING ABSORPTION AREA>. As required by the conditions set forth in GMP 2015-02, the repair provides for TL-3 treatment, disinfection, and 50 percent nitrogen reduction.

¹² 12VAC5-613-90.C.1 requires compliance with the groundwater anti-degradation standard set forth in 9VAC25-80; 12VAC5-613-90.C.2 requires quarterly sampling and remote monitoring of the treatment works (this requirement is derived from 12VAC5-613-100.G); 12VAC5-613-90.C.3 requires treatment of effluent capable of producing Biochemical Oxygen Demand – five day (“BOD₅”) and Total Suspended Solid (“TSS”) concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; total nitrogen (“TN”) concentration of less than 5 mg/l; high level disinfection; and filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 12VAC5-613-90.C.4 contains a prohibition on gravity dispersal into the soil treatment area; 12VAC5-613-90.C.5 requires loading rates to comply with Table 1 of the Regulations; 12VAC5-613-90.C.6 requires a renewable operating permit; 12VAC5-613-90.C.7 requires the designer to provide a hydrogeologic analysis of the receiving groundwater; and 12VAC5-613-90.D.4 requires designs for direct dispersal within the Chesapeake Bay Watershed to be capable of producing TN concentrations less than or equal to 3 mg/l and total phosphorus concentrations less than or equal to 0.3 mg/l.

<FOR VOLUNTARY UPGRADE, INSERT THE FOLLOWING: “In your request you stated that you were not experiencing any difficulty with your existing sewage system. This presents a unique problem. Normally, a variance is granted when the regulations present a specific hardship that outweighs the benefits of complying with the Regulations. In this case, there is no hardship because you did not have to install the voluntary upgrade. You could have continued using the existing sewage system, which was functioning properly. Nevertheless, I believe installing the voluntary upgrade will likely have a more positive effect to ground water and public health. In other words, while the voluntary upgrade is less than ideal because it does not fully comply with the Regulations, it remains a better alternative as compared to the existing sewage system.”>

After installing the <INSERT “repair” or “voluntary upgrade” AS APPROPRIATE>, you are requesting a variance to the renewable operating permit, remote monitoring (not installed at the time of construction), and increased sampling frequency for direct dispersal to ground water.¹³ You indicate the additional operational requirements imposed by 12VAC5-613-90.C.2, 12VAC5-613-90.C.6, and 12VAC5-613-100.G pose an economic hardship. The Department of Planning and Budget estimates the additional operational costs to be \$800 to \$2,500 annually.¹⁴

After consideration of the facts and circumstances germane to your request, I have determined your proposal qualifies for a variance established by the Commissioner of Health through Guidance, Memoranda and Policy #2015-02. You are not required to sample quarterly, remotely monitor, or receive a renewable operating permit. However, you must sample the AOSS in accordance with <INSERT “12VAC5-613-100.D” OR “12VAC5-613-100.E” AS APPROPRIATE>, which describes the sampling frequency for a <INSERT “generally approved treatment device” or “non-generally approved treatment device” AS APPROPRIATE.> <FOR GENERAL APPROVAL STATE “Under 12VAC5-613-100.D an initial sample shall be collected within 180 days of system operation. Thereafter, a sample is required once every five years.” or FOR NON-GENERALLY APPROVED STATE “Under 12VAC5-613-100.E, you are required to sample the system quarterly for two years, after which, the sampling frequency can revert to once every five years if the mean of the samples shows treatment complies with TL-3.”>

This variance is effective 15 days from your receipt of this letter, is not transferable, and is null and void if the <INSERT “repair” or “voluntary upgrade,” AS APPROPRIATE> fails.¹⁵

¹³The Regulations require quarterly sampling and remote monitoring for direct dispersal to ground water. See 12VAC5-613-100.G. By requesting the waiver, the requirements of 12VAC5-90.C.3 and 4, and 12VAC5-613-90.D.4 are waived so a variance is not necessary. Since a construction permit has already been issued, and the system installed, variances from 12VAC5-613-90.C.7 and 12VAC5-613-200.5 are not needed. A variance to 12VAC5-613-90.C.1 is also not needed because the existing sewage system already disperses effluent into groundwater.

¹⁴ See Page 5, DPB Economic Analysis of the Regulations (October 4, 2010):

http://townhall.virginia.gov/L/GetFile.cfm?File=C:\TownHall\docroot\58\3184\5632\EIA_VDH_5632_v1.pdf

¹⁵ 12VAC5-610-350 states that for the purpose of requiring correction of a malfunctioning sewage disposal system the presence of raw or partially treated sewage on the ground’s surface or in adjacent ditches or waterways or exposure to insects, animals or humans is prima facie evidence of such system failure and is deemed a violation of the regulations. Backup of sewage into plumbing fixtures may also indicate system failure.

GMP #2015-02

April 16, 2015

Page 13 of 15

If you have other information the Commissioner should consider regarding the conditions set forth in this variance, please contact Dwayne Roadcap, Director, Division of Onsite Sewage, Water Services, Environmental Engineering, and Marina Programs, within 30 days of your receipt of this letter. Mr. Roadcap can be reached at 109 Governor Street, 5th Floor, Richmond, Virginia 23219, or (804) 864-7458. If you have other questions, please contact me <EH Manager or Health Director>.

Sincerely,

<EH Manager or Health Director>

DRAFT

Appendix C: Regulatory Requirements for Direct Dispersal

12VAC5-613-90.C, 12VAC5-613-90.D.4, and 12VAC5-613-100.G

12VAC5-613-90.C. AOSSs with direct dispersal of effluent to ground water are subject to the following requirements:

1. If the concentration of any constituent in ground water is less than the limits set forth at [9VAC25-280](#), the natural quality for the constituent shall be maintained; natural quality shall also be maintained for all constituents not set forth in [9VAC25-280](#). If the concentration of any constituent in ground water exceeds the limit in the standard for that constituent, no addition of that constituent to the naturally occurring concentration shall be made. The commissioner shall consult with the Department of Environmental Quality prior to granting any variance from this subsection.
2. Ground water and laboratory sampling in accordance with [12VAC5-613-100 G](#).
3. The treatment unit or system shall comply with the following at a minimum:
 - a. The effluent quality from the treatment unit or system shall be measured prior to the point of effluent application to the soil treatment area and shall be as follows: BOD₅ and TSS concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2,2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; and TN concentration of less than 5 mg/l;
 - b. High level disinfection is required; and
 - c. Treatment systems shall incorporate filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 NTU prior to disinfection.
4. Gravity dispersal to the soil treatment area is prohibited.
5. Loading rates to the soil treatment area shall not exceed the loading rates in Table 1 of this section.
6. A renewable operating permit shall be obtained and maintained in accordance with [12VAC5-613-60 C](#).
7. The designer shall provide sufficient hydrogeologic analysis to demonstrate that a proposed AOSS will function as designed for the life of the structure served without degradation of the soil treatment area. This shall include a determination of ground water flow direction and rate.

12VAC5-613-90.D. The following additional nutrient requirements apply to all AOSSs in the Chesapeake Bay Watershed:

4. For direct dispersal of effluent to ground water in the Chesapeake Bay Watershed, TN concentration shall be less than or equal to 3 mg/l and total phosphorus concentration shall be less than or equal to 0.3 mg/l.

12VAC5-613-100.G. Systems with direct dispersal to ground water as described in [12VAC5-613-90](#) C shall comply with the following:

1. Small AOSS treatment systems:
 - a. Shall incorporate a method to remotely monitor the operation of treatment units and processes, including the status of the disinfection unit, and automatically notify the operator and local health department if an alarm condition occurs;
 - b. Shall be sampled quarterly in accordance with [12VAC5-613-90](#) C and as defined in the renewable operating permit; and
 - c. No treatment units or systems shall be deemed generally approved.
2. Large AOSSs must be continuously monitored for the proper operation of all treatment units. If the wastewater treatment works is not manned 24 hours a day, telemetry shall be provided that monitors all critical systems, including turbidity into the disinfection unit and the functionality of the disinfection unit, and notifies the operator and local health department if an alarm condition occurs.
 - a. Treatment works with a design flow of less than 40,000 GPD shall be sampled at least monthly in accordance with [12VAC5-613-90](#) C and as defined in the renewable operating permit.
 - b. Treatment works with a design flow of 40,000 GPD or greater shall be sampled at the frequency specified in Table 3 of this section. Total phosphorus and other limited parameters not listed in Table 3 of this section shall be conducted at a frequency defined in the renewable operating permit. The treatment works must comply with the continuous operability requirements of a Reliability Class I rating as described in [9VAC25-790](#). Appropriate backup power sources, equipment redundancy, and failsafe modes must be in place.
3. Ground water monitoring is required for all large AOSSs with direct dispersal of effluent to the ground water and such monitoring shall be conducted in accordance with the renewable operating permit.

April 10, 2015

MEMORANDUM

TO: District Health Directors
District Environmental Health Managers **GMP #2015-04**

THROUGH: Allen Knapp, Director
Office of Environmental Health Services

THROUGH: Robert W. Hicks, Deputy Commissioner
Community Health Services

FROM: Dwayne Roadcap, Director
Division of Onsite Sewage and Water Services, Environmental Engineering and
Marina Programs

SUBJECT: Guidance Memorandum and Policy 2015-02: Collection of Global Positioning
System Data for Onsite Sewage Disposal Systems, Alternative Discharge
Systems, and Private Wells

Scope: All onsite sewage disposal systems, alternative discharge systems and private wells either currently in use or approved for use by VDH.

Policy: The local health department will obtain and record, in VENIS, GPS coordinates for all onsite sewage disposal systems, alternative discharge systems and private wells that are in use or are approved for use. "Approved for use" in this context means that an Operation Permit has been issued for a sewage disposal system or the well has been approved for use. The policy also applies to any onsite sewage disposal system, alternative discharge system, and private well that is currently being used.

Procedures:

1. Data collection

The local health department is responsible for ensuring that data meeting the minimum requirements listed below is collected for each sewage disposal system and/or private well approved for use by that department. The data should be collected after installation, to ensure that the coordinates accurately reflect the installed, rather than the permitted, location. Local health departments are encouraged to work with private sector professionals to obtain the data with completion statements and records of inspection.

Local health departments will begin collecting the required coordinates for any sewage disposal system or private well (including all class IV wells) approved on or after the effective date of this memorandum. For sewage systems and private wells already in existence, for which no data is available in VENIS, local health departments will collect the coordinates at the time of the next visit to the property where the system and/or well is located. For example, if the local health department makes a visit to a property for a “safe, adequate and proper” determination, the coordinates of the sewage system and/or well should be collected during that visit. The use of computer mapping websites (e.g., GetLatLong, iTouchMap, Google) is permissible for temporarily identifying the location of sewage systems and private wells already in existence (including Legacy Systems) when staff know a site visit is not planned for the foreseeable future. **Coordinates identified in this manner should be field-verified with a GPS unit at the next site visit.** Field-verified data should be used to over-write previously collected data; we do not need to keep both sets of coordinates. Keep in mind that the aerial imagery used by mapping websites may not be current and the resolution may not provide adequate detail to clearly identify the points of interest.

As a *minimum*, coordinates for the following points will be collected and recorded in VENIS:

- a. For an onsite sewage disposal system, the center of the absorption area.
- b. For an alternative discharge system, the outfall of the discharge.
- c. For a private well, the well head.

2. Data quality and accuracy

At a minimum, the data shall be collected with a GPS unit that has a Wide Area Augmentation System (WAAS) enabled receiver. The WAAS signal is a type of real-time correction with fixed reference stations/satellites that helps improve the accuracy of your location. It should be available in most locations in Virginia, and GPS units should receive this signal automatically. However, if the particular GPS unit in use does not read this signal by default, make sure this feature is turned on in the option settings.

Most GPS units contain at least a 12-channel receiver. A GPS unit with more channels is not necessarily more accurate, but it may obtain a quicker fix on your location and hold satellite signals better. If data collection is to be done in hilly terrain or under tree canopy, a GPS unit with a protruding or external antenna may improve satellite reception. The horizontal reference datum (or simply ‘datum’) should be set to NAD83 when collecting data. Verify the datum setting of the GPS unit prior to collecting data. Some GPS units may default to another setting when powered-down or when batteries are replaced. Data should be collected in the decimal degree format (e.g. dd.ddddd or 76.12345) and must include at least five decimal places for latitude and longitude. It is acceptable to collect more than five decimal places if the GPS unit can accurately make the determination, or if the district chooses to perform post-processing differential correction of the data.

3. Data recordation

The GPS coordinates identified in item 1 above shall be entered into VENIS on the appropriate sewage component (for absorption area or discharge point) or on the design tab for a private well. Enter the data in an un-projected, decimal-degree latitude and longitude format. Only numbers will be permitted in the data fields and the position relative to the Equator and Prime Meridian will be handled internally by VENIS (e.g. N, W, “-“, etc.). Check the “verified” box when the data has been field verified (as opposed to having been collected using a web-based program). The data entered here will be used by OEHS for mapping data, and will be shared with other users both inside and outside of the agency.

If local health departments wish to obtain additional GPS coordinates (e.g. for a treatment unit, absorption area corners, etc.) they may do so. The additional coordinates can be recorded in VENIS for the applicable component shown on the “installed” tab. In addition, an additional set of coordinates to locate the property can be entered on the physical location.



COMMONWEALTH of VIRGINIA

Department of Health

P O BOX 2448
Richmond, VA 23218

Marissa Levine, MD, MPH, FAAFP
State Health Commissioner

TTY 7-1-1 OR
1-800-828-1120

April 3, 2015

MEMORANDUM

TO: District Health Directors
District Environmental Health Managers **GMP 2015-3**

THROUGH: Marissa J. Levine, MD, MPH, FAAFP
State Health Commissioner

THROUGH: Allen Knapp, Director
Office of Environmental Health Services

FROM: Dwayne Roadcap, Director
Division of Onsite Sewage and Water Services, Environmental Engineering
and Marina Programs

SUBJECT: GUIDANCE MEMORANDUM AND POLICY 2015-03: Guidance to implement 12VAC5-613-70 of the *Regulations for Alternative Onsite Sewage Systems (AOSS Regulations)*: Evaluation Protocol and Listing Procedures for TL-2 and TL-3 Sewage Treatment Units

I. Definitions:

"Biochemical oxygen demand, five-day" or "BOD₅" means the quantitative measure of the amount of oxygen consumed by bacteria while stabilizing, digesting, or treating biodegradable organic matter under aerobic conditions over a five-day incubation period; BOD₅ is expressed in milligrams per liter (mg/l).

"Division" means the Division of Onsite Sewage and Water Services, Environmental Engineering, and Marina Programs within the Department.

"General approval" means that a treatment unit has been evaluated in accordance with 12VAC5-613 and 12VAC5-610 and approved for TL-2 or TL-3 in accordance with 12VAC5-613.

"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 CBOD₅ and 30 mg/L TSS or less, and pH 6.0-9.0

“NSF/ANSI 360” means a standard promulgated by the National Sanitation Foundation and American National Standards Institute for wastewater treatment systems with rated capacities between 400 and 1,500 gallons per day, which NSF/ANSI previously certified to NSF/ANSI 40 or NSF/ANSI 245. This standard evaluates system selection, screening, minimum number of locations, sample frequency and duration, and sets quality requirements.

"Residential wastewater" means sewage (i) generated by residential or accessory uses, not containing storm water or industrial influent, and having no other toxic, or hazardous constituents not routinely found in residential wastewater flows, or (ii) as certified by a professional engineer. See Va. Code Section 54.1-400. Per 12VAC5-610 raw residential wastewater has ≤ 320 mg/l BOD₅ and TSS.

“Small alternative onsite sewage system (AOSS)” means an AOSS that serves no more than three attached or detached single-family residences with a combined average flow of less than or equal to 1,000 GPD, or a structure with an average daily sewage flow of less than or equal to 1,000 GPD.

“Third Party” means an entity or person with no stake in the outcome of the approval process that will 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.

"Treatment Level 2 effluent" or "TL-2" means secondary effluent as defined in 12VAC5-610-120 that has been treated to produce BOD₅ and TSS concentrations equal to or less than 30 mg/l each.

"Treatment Level 3 effluent" or "TL-3" means effluent that has been treated to produce BOD₅ and TSS concentrations equal to or less than 10 mg/l each.

“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 of this policy

This policy implements 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 treatment. This policy also establishes the protocol for recognition of treatment units as generally approved for TL-2 treatment.

GMP #147 is rescinded and replaced with this policy. Requests for TL-2 or TL-3 general approval received after the issuance of this policy are subject to the requirements of this policy pursuant to 12VAC5-613-70 of the *AOSS Regulations*.

III. Scope of this policy

The evaluation procedures described herein apply to small AOSSs treating residential wastewater. Manufacturers are not required to have their treatment units evaluated pursuant to this policy, nor are designers required to use a generally approved treatment unit. Non-generally approved treatments units may be used pursuant to 12VAC5-613-100.E. The evaluation protocols outlined herein do not predict the performance or mean of any single treatment unit. VDH does not rely solely on the results of an individual grab sample to establish quality of effluent from an individual treatment unit (see 12VAC5-613-50.I).

This policy provides minor procedural changes to prior agreements. VDH will continue to recognize existing Memorandums of Understanding and Agreement for field testing of units for TL-3 performance effective as of the date of this policy. Manufacturers may update their existing agreement consistent with this policy upon request. Treatment units with an effective agreement shall be evaluated in accordance with the protocol outlined in that agreement.

GMP #147 included allowances, variances, and design requirements for TL-3 pad, trench, and drip dispersal systems. Although promulgation of the *AOSS Regulations* and its associated performance requirements negated the need for those design specifications, nothing in 12VAC5-613 precludes continued use of prior design guidance in GMP #147, or other prescriptive design criteria in the *Sewage Handling and Disposal Regulations*.

Question: What if a designer wants to use a treatment unit that is undergoing evaluation for TL-3? What are the sampling requirements?

Answer: Until a unit is generally approved, it is non-generally approved. Professional Engineers may use standard engineering practice to justify use of a treatment unit not yet generally approved under this policy to meet the performance requirements of the regulations. Such units follow monitoring in accordance with 12 VAC5-613-100E.

IV. Background and discussion

VDH has historically evaluated nascent and emerging technologies using “experimental” or “provisional” protocols in 12VAC5-610 by coupling treatment with dispersal, requiring fecal coliform measurements following effluent dispersal 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 evaluations under experimental and provisional approval. Those evaluations demonstrated higher-quality effluent could be successfully dispersed at higher soil loading rates and with reduced vertical separation to limiting features. Additional manufacturers subsequently provided end of pipe data for their units to show similar or better end of pipe results (Bio-Microbics, Clearstream, Ecological Tanks, Inc., EZ Treat, and Quanics). Five of these manufacturers received general approval for TL-3 effluent before 12VAC5-613 was promulgated; the rest received general approval after the effective date of the *AOSS Regulations*.

During the regulatory adoption process for 12VAC5-613, the Board of Health received numerous comments regarding 12VAC5-613-30.L, which states: "Treatment units for small AOSSs that are recognized by the department as generally approved for TL-2 or TL-3 treatment as of December 7, 2011, shall retain such status for a period of five years from December 7, 2011, after which the units shall be evaluated pursuant to the requirements of this chapter." Subsequent to that date (December 7, 2016), those units must be evaluated pursuant to 12VAC5-613-30.L. Units approved after December 7, 2011, but prior to adoption of this protocol, are not required to be evaluated under this current protocol.

V. Procedures for TL-2 general approval:

All treatment units with NSF/ANSI Standard 40 Class I (NSF/ANSI 40) are generally approved for TL-2 treatment without further evaluation; no application is required for listing. 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>.

All treatment units approved for TL-2 general approval prior to the effective date of this policy retain such status; these manufacturers do not need to submit a new application for listing. New requests for TL-2 general approval are initiated by submitting the application in Appendix A to the Division, including sufficient performance data to justify the listing. The Division may seek input from the Sewage Handling and Disposal Advisory Committee before rendering a decision. Treatment units without NSF/ANSI 40 approval are listed in Appendix D, which will be updated as necessary. The data and/or report that is the basis for listing will also be posted.

VI. Procedures for TL-3 general approval:

A. Overview:

The AOSS Regulations, at 12VAC5-613-30.L and M, and 12VAC5-613-70 states the following:

- L. Treatment units for small AOSSs that are recognized by the department as generally approved for TL-2 or TL-3 as of December 7, 2011, shall retain such status for a period of five years from December 7, 2011, after which the units shall be evaluated pursuant to the requirements of this chapter.*
- M. After December 7, 2011, new applications for general approval for TL-2 or TL-3 shall be subject to the requirements of this chapter. The department may continue to evaluate any treatment unit for small AOSSs that is undergoing evaluation as of December 7, 2011, using the protocol in place on the date of application for general approval.*

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 submit results from testing of 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. *For each treatment unit included in the evaluation, the manufacturer shall provide the Division with data of quarterly sample results measuring, at a minimum, influent and effluent BOD₅ and TSS;*
3. *Operation and maintenance shall be performed on each evaluated treatment unit during the evaluation period in accordance with the provisions of 12VAC5-613-120 through 190 by an independent licensed AOSS operator; 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.*

Manufacturers with products recognized for TL-3 general approval prior to December 7, 2011 retain such status until December 7, 2016, after which the manufacturer must request the Division to evaluate pursuant to 12VAC5-613 and this policy for continued listing as generally approved. Any manufacturer with general approval prior to December 7, 2011 may submit an application to the Division for retaining such general approval status (Appendix A).

With respect 12VAC5-613-70 and the requirement to provide only data from treatment units installed in the Commonwealth of Virginia, the Commissioner of Health has determined a variance pursuant to 12VAC5-610-190 is warranted to allow any manufacturer to provide data pursuant to NSF 360. At the manufacturer's request, the Division will evaluate the NSF 360 data to determine whether it complies with the requirements of 12VAC5-613-70 and this policy, including the pass/fail criteria.

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 at a site requiring TL-3 effluent, sampling requirements follow 12VAC5-613-100.E. Data collected may fulfill sampling requirements for 12VAC5-613-100.E and this policy. Sample collection and operation and maintenance may not be conducted by the same party.

Appendix B includes the Memorandum of Understanding and Agreement for evaluation pursuant to 12VAC5-613-70. The Agreement may be amended by mutual consent of the parties, and may be terminated by either party with notice. Upon conclusion of testing and evaluation in accordance with the Agreement, the Division will render a decision about the manufacturer's listing status (general approval). The Commissioner of Health specifically delegates responsibility of signing the contract to the Division Director. By executing that 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 treatment units located and installed in the Commonwealth of Virginia. Those treatment units 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 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. No evaluation or testing for 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 by the Manufacturer, 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 a suitable, independent third party such as a faculty member in an appropriate program of an accredited college or university, a licensed professional engineer experienced in the field of environmental engineering, or by a testing firm acceptable to and pre-approved by the Division. Sample collection and operation and maintenance may not be conducted by the same party.
- vii. All units must be operated and maintained in accordance with the site specific operation and maintenance (O&M) manual required under 12VAC5-613-170. A manufacturer may ensure that a unit is in proper working order at the start of the study; however, operation and maintenance during the course of the study must be conducted by an independent, properly licensed operator. O&M must be conducted 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 submit O&M logs for each site with the final report.
- viii. The third party must provide a Quality Assurance and Quality Control (QA/QC). The QA/QC plan will include information on the collection, transport, and handling of samples and must be acceptable to the Division.

The Manufacturer must provide the Division with a copy of its contract with the third party that specifies the third party's duties to implement this policy and applicable regulations, 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 and 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, BOD₅ 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 other 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 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 passed the time needed to collect a suitable sample. The third party must keep and maintain chain of custody in accordance with the QA/QC plan for each sampling event and provided 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 BOD₅ 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 the following information:

- i. Sample results for influent and effluent.
- ii. Interim observations about the Treatment Unit's performance with respect to the pass/fail criteria.
- iii. For each Treatment Unit included in the performance evaluation that is installed after the execution date of the Agreement, the level of effluent treatment (Septic Tank Effluent, TL-2 or TL-3) required for that installation shall be reported. Treatment Units included in the performance evaluation that were installed prior to the execution date of the Agreement are exempt from this requirement. TL-2 units installed where TL-3 effluent is required are considered non-generally approved for that use and are subject to the sampling requirements of both 12VAC5-613-100E and this protocol.
- iv. 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.

B. Outline of the application and evaluation process for TL-3:

1. The manufacturer must submit a request to the Division using the Application in Appendix A. The request must include the information described within this section, a completed Application (Appendix A), and a completed Memorandum of Understanding and Agreement (Appendix B). Electronic submittals are encouraged.
2. The submittal must address the following:
 - i. The proprietary treatment unit must be recognized by VDH as generally approved for TL-2 treatment via one of the previously-noted approval pathways.
 - 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 treatment criteria.
 - iii. The manufacturer must submit an 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:¹
 - 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 Operation and Maintenance (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.

¹ Depending on the specific and individualized design of proposed/constructed treatment systems, additional or different O&M instructions may be submitted to or required by the local health department for individual operation permits.

3. At the conclusion of its evaluation in accordance with the Agreement, the identified third party must prepare a final report including the following (at a minimum):
 - i. Description of site selection;
 - ii. Specifications for the tested system;
 - iii. Description of typical installation;
 - iv. Geographic locations of systems tested;
 - v. Operation and Maintenance logs and an assessment of any O&M performed beyond the O&M Manual requirements on the outcome of the test results;
 - vi. Chain of Custody forms;
 - vii. List of key participants;
 - viii. Description of sampling methods and list of analytical methods;
 - ix. All testing results including all sample data and any statistical analyses or other data summaries or evaluations;
 - x. Rationale for exclusion of data or removal of a system from the statistical analysis; and
 - xi. An overall evaluation/assessment of the study data in relation to the pass/fail criteria.

The report must include an electronic copy of the data in Excel format in the provided spreadsheet for statistical analysis or as otherwise agreed to 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.

4. Upon submission of the third party report, the Division will evaluate results and determine whether the treatment unit passed the evaluation.

The final effluent result for both BOD₅ 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. A spreadsheet is provided in Appendix C to facilitate the statistical evaluation.

If the above statistical analysis indicates that the treatment unit produces 10 mg/l or less BOD₅ 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 Memorandum of Agreement to repeat the field testing. Examples of sufficient justification include modification of the treatment unit to address performance shortcomings and/or the discovery of errors in the initial testing – including laboratory errors – sufficient to invalidate the original test’s data and conclusions. A manufacturer failing to complete the testing within the 3 year time period may, with cause, petition to execute a new Agreement.

A treatment unit may be removed from the General Approval list when the design of the treatment unit has substantially changed from the design that was tested and evaluated pursuant

12VAC5-613 and this policy. In such case, the Division will notify the manufacturer and provide due process in accordance with the Administrative Process Act.

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