COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF HEALTH

GUIDANCE MANUAL

Emergency Regulations for Alternative Onsite Sewage Systems
12 VAC 5-613-10

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INTRODUCTION

Legislation approved in 2008 (Va. Code § 32.1-163.6) requires the Virginia Department of Health (VDH) to accept designs from professional engineers for onsite sewage systems that comply with standard engineering practice, any performance requirements established by the Board of Health (Board), and horizontal setback requirements necessary to protect public health and the environment. Designs must reflect the degree of skill and care ordinarily exercised by licensed members of the engineering profession. Legislation approved in 2009 amended Va. Code § 32.1-163.6 requiring treatment works designs to meet or exceed the standards of systems permitted under the Board's regulations and to be appropriate for the particular soil characteristics of the site.

In 2009, the General Assembly directed VDH by operation of an enactment clause, to adopt emergency regulations to specifically address three issues relative to alternative onsite sewage systems (AOSS): Performance, Horizontal Distances and Operation and Maintenance (P, HD, O & M). The *Emergency Regulations for Alternative Onsite Sewage Systems* (12VAC5-613-10 et seq., *Emergency Regulations*) are an interim effort to supplement the *Sewage Handling and Disposal Regulations* (12VAC5-610-20 et seq.) where they are silent with respect to performance and operation & maintenance and to establish specific horizontal distances for proposals under Va. Code § 32.1-163.6.

This guidance document is intended to assist Health Districts and their customers in the administration of the *Emergency Regulations*. The document is generally formatted in a manner that mirrors the *Emergency Regulations* with frequently asked questions inserted within the document.

For most of the state, implementation of the *Emergency Regulations* will focus on educating designers, contractors, owners, and other stakeholders in the various requirements of this new regulatory program. In addition, local health departments should focus on completing inventories of all onsite sewage systems, including AOSS, in accordance with the agency's strategic plan. In many ways, the success of this program will hinge on VDH's ability to inform affected parties of the new requirements. Only after there is an informed stakeholder community and an accurate inventory of systems is it reasonable to focus on compliance issues.

Districts with already well-developed AOSS surveillance programs are expected to continue to communicate effectively with stakeholder communities and ensure the quality of the data collected regarding onsite systems. Those districts will begin the broader effort of directing resources toward tracking and obtaining compliance with the *Emergency Regulations*.

VDH's goal in implementing the *Emergency Regulations* is to protect public health and the environment by establishing appropriate performance requirements and ensuring all AOSS are operated in accordance with those requirements. In accordance with existing VDH policy, systems (including conventional systems) that are failing or malfunctioning in ways that threaten public health and the environment are considered a top priority.

PART I

Guidance concerning 12VAC5-613-10. Definitions.

Section 613-10 of the *Emergency Regulations* defines terms in the regulations. Section 613-10 also states that terms not defined in the *Emergency Regulations* shall have the meaning prescribed in Chapter 6 of Title 32.1 of the *Code of Virginia* (*Code*) or in 12VAC5-610-20 et seq. of the *Sewage Handling and Disposal Regulations* (or successor regulation) unless the plain reading of the language requires a different meaning. The following is a list of terms that are not defined in the *Emergency Regulations* but are defined in Chapter 6 of Title 32.1 of the *Code* or the *Sewage Handling and Disposal Regulations*.

Chapter 6 of Title 32.1 of the *Code of Virginia*.

"Betterment loan" means a loan to be provided by private lenders either directly or through a state agency, authority or instrumentality or a locality or local or regional authority serving as a conduit lender, to repair, replace, or upgrade an onsite sewage system or an alternative discharging sewage system for the purpose of reducing threats to public health and ground and surface waters, which loan is secured by a lien with a priority equivalent to the priority of a lien securing an assessment for local improvements under § 15.2-2411.

"Sewage" means water-carried and nonwater-carried human excrement, kitchen, laundry, shower, bath, or lavatory wastes separately or together with such underground, surface, storm or other water and liquid industrial wastes as may be present from residences, buildings, vehicles, industrial establishments or other places.

"Treatment works" means any device or system used in the storage, treatment, disposal or reclamation of sewage or combinations of sewage and industrial wastes, including but not limited to pumping, power and other equipment and appurtenances, septic tanks, and any works, including land, that are or will be (i) an integral part of the treatment process or (ii) used for the ultimate disposal of residues or effluents resulting from such treatment.

The *Sewage Handling and Disposal Regulations*.

"Bedrock or rock" means continuous, coherent, lithologic material that has a relative hardness depending on the degree of weathering. Bedrock has characteristics such as strike, dip, jointing, and lithological compositions. Structure and water movement are rock controlled. Bedrock grinds with an auger, and mechanical penetration is more difficult or prevented as the material gets harder.

"Commissioner" means the State Health Commissioner or his subordinate who has been delegated powers in accordance with subdivision 2 of 12 VAC 5-610-40.

"Septic tank effluent"- means effluent characterized by five-day biochemical oxygen demand between 120 and 200 mg/l; total suspended solids between 70 and 150 mg/l; fats oils, and grease of 30 mg/l or less; and having no other toxic, hazardous, or constituents not routinely found in residential wastewater flows.

"Sewage" see definition under Chapter 6 of Title 32.1 of the *Code of Virginia* above.

"Sink hole" means a depression in the topography without a surface outlet for drainage from the low point. Sink holes are common in areas containing limestone and generally result from the collapse of solution cavities.

"Treatment works" see definition under Chapter 6 of Title 32.1 of the *Code of Virginia* heading.

Frequently Asked Questions: 12VAC5-613-10. Definitions.

FAQ #10-001. Does an onsite sewage system that has the components of a "conventional onsite sewage system" and also has additional major components meet the definition of a "conventional onsite sewage system"?
Answer: No. The definition of a "conventional onsite sewage system" is an exclusive definition. If a system contains additional major components not listed in the definition of a "conventional onsite sewage system" such as but not limited to, aerobic treatment units, fixed media filters, and pressure distribution, then the system is not a "conventional onsite sewage disposal system".

FAQ #10-002. Are privies "alternative onsite sewage systems"?
Answer: No.

FAQ #10-003. Are pump and haul systems "alternative onsite sewage systems"?
Answer: No. A pump and haul system is not a treatment works and therefore does not meet the definition of an alternative onsite sewage system.

FAQ #10-004. In the definition of "Relationship with an operator" does the owner of an AOSS need to submit a maintenance and monitoring contract as evidence of an agreement with an operator?
Answer: No. The owner of an AOSS does not need to submit a maintenance and monitoring contract; however the owner of the AOSS does need to provide, upon request by VDH, evidence that an agreement with an operator exists.

FAQ #10-005. Are low pressure distribution (LPD) systems that disperse septic tank effluent considered to be "alternative onsite sewage systems"?
Answer: Yes. All LPD systems are considered to be AOSS. The requirements of the *Emergency Regulations* apply to all LPD systems regardless of treatment level.

FAQ #10-006. When are onsite sewage disposal system construction permits required for work performed on an existing AOSS?
Answer: Permits are required for those actions not defined as "maintenance"; such as replacement of tanks, drain field piping, distribution boxes, the installation of additional storage or treatment capacity, or the installation of a new treatment unit, treatment system, or filter media.

The *Emergency Regulations* define "*Maintenance*" in 12 VAC5-613-10. An onsite sewage disposal system construction permit is not required for maintenance of an AOSS such as

adjustments to equipment and controls and in-kind replacement of normal wear and tear parts mentioned specifically in the definition. Periodic pumping and cleaning are also considered maintenance; therefore a construction permit is not required for these tasks. Although a repair permit is not needed for services defined as maintenance, the operator must follow the reporting and record-keeping requirements of sections 100 and 170 of the *Emergency Regulations.*

FAQ #10-007. When are onsite sewage disposal system construction permit application fees necessary for work performed on an AOSS?
Answer: An application fee is required for any work that requires a construction permit, unless the work to be performed is the repair or replacement of a damaged or malfunctioning part (component) of the system. An application for a permit to perform any work that increases the design capacity of the system requires payment of an application fee, even when that work is to be completed in conjunction with a repair.

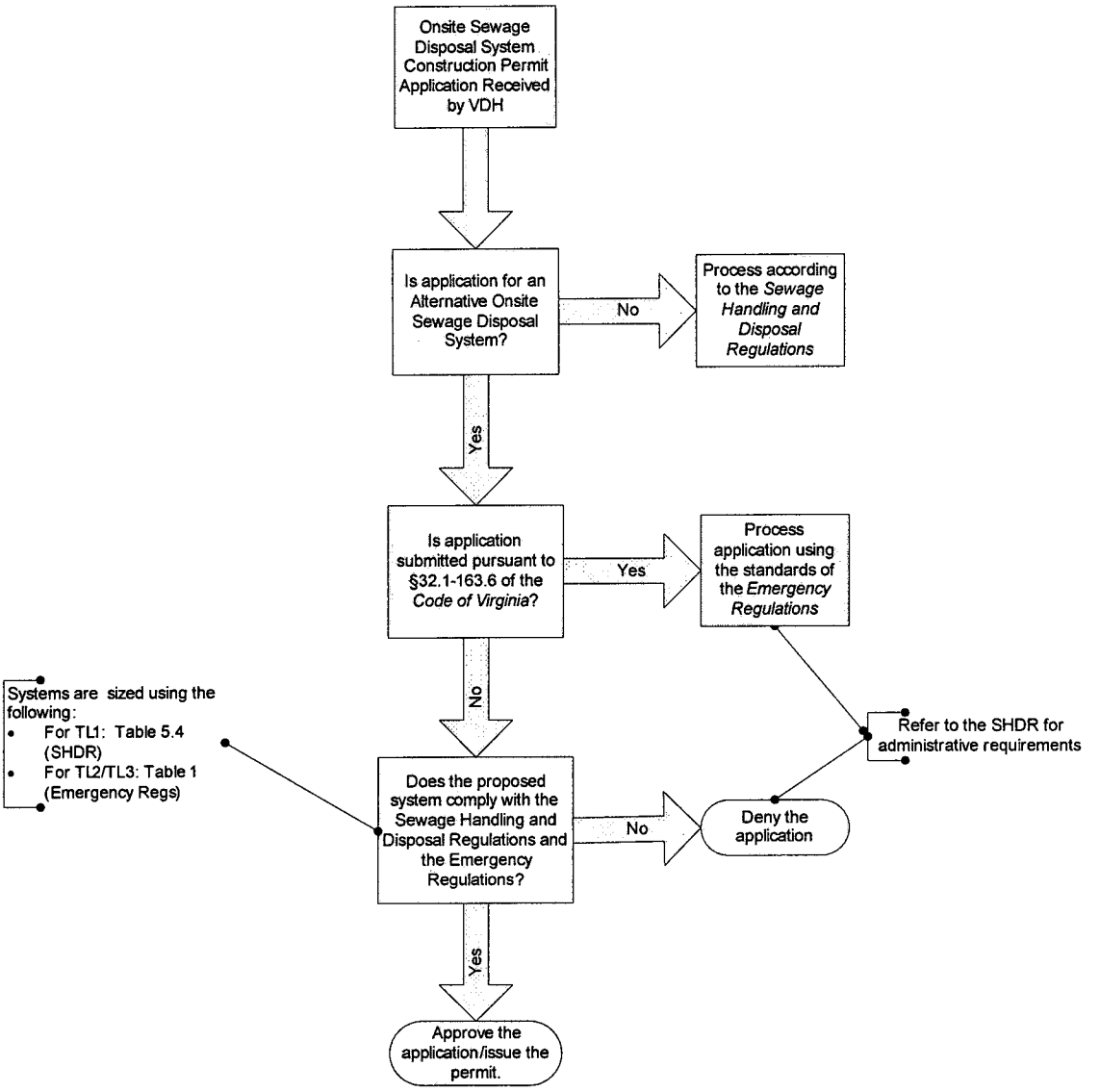
Guidance Concerning 12VAC5-613-30. Applicability and Scope.

Section 30.F provides that "AOSS designed, constructed, permitted, and operated in accordance with this chapter and the prescriptive design, location, and construction criteria of 12VAC5-610-20 et seq. and the policies and procedures of the department are presumed to comply with the ground water quality requirements of 12VAC5-613-70 A 11."

FAQ #30-001. Do systems permitted pursuant to GMP #147 automatically meet the ground water standard? Is disinfection required whenever the separation to a limiting feature is less than 12 inches?
Answer: Systems permitted pursuant to GMP #147 are presumed to meet the ground water standard as long as the vertical separation is 12 inches or more. The *Emergency Regulations* require TL3 effluent and disinfection any time the vertical separation is less than 12 inches. Listing under GMP #147 indicates compliance with the effluent requirement; the disinfection requirement for sites with less than 12 inches of vertical separation applies to all AOSS, including those permitted pursuant to GMP #147.

Guidance Concerning 12VAC5-613-40. Relationship to Other Regulations.

The following flow chart is meant to assist in determining the regulation(s) to be applied to applications for onsite sewage disposal system approval.



Guidance Concerning 12VAC5-613-50. Violations, Enforcement.

Inspections of AOSS by local health departments are encouraged. Inspection frequency should be based on risk to public health and the environment. Factors to consider in selecting which systems to initially inspect include, but are not limited to, the size, age, and the required maintenance of the AOSS.

PART II

Guidance Concerning 12VAC5-613-70. Performance Requirements-General.

Table 1 of the *Emergency Regulations* presents the maximum trench bottom hydraulic loading rates for TL-2 and TL-3 effluent for pressure dosed systems. The following charts convert this information into the minimum trench bottom area required.

Minimum Trench bottom area in sq. ft. for pressure dosed systems of TL-2 effluent.

Percolation rate (MPI)	1 bedroom 150 GPD	2 bedroom 300 GPD	3 bedroom 450 GPD	4 bedroom 600 GPD	5 bedroom 750 GPD
Up to 15	83.3	166.7	250	333.4	417
20-25	107.1	214.3	321.4	428.6	535.7
30-45	125	250	375	500	625
50-90	187.5	375	562.5	750	937.5
Greater than 90	375	750	1125	1500	1875

Minimum Trench bottom area in sq. ft. for pressure dosed systems of TL-3 effluent.

Percolation rate (MPI)	1 bedroom 150 GPD	2 bedroom 300 GPD	3 bedroom 450 GPD	4 bedroom 600 GPD	5 bedroom 750 GPD
Up to 15	50	100	150	200	250
20-25	75	150	225	300	375
30-45	100	200	300	400	500
50-90	150	300	450	600	750
Greater than 90	300	600	900	1200	1500

Clarifications.

12VAC5-613-70.A.2. The insects referred to in this section are vectors not part of the treatment process.

Frequently Asked Questions 12VAC5-613-70.

FAQ#70-001. How will Environmental Health Specialists evaluate PE/OSE submittals to assure they comply with the requirements outlined in 12VAC5-613-70 sections 13 through 16?
Answer: The *Emergency Regulations* do not change the fundamental relationship between VDH and private designers. The designer is responsible for proposing designs that are either compliant with the *Sewage Handling and Disposal Regulations* (and related policies), or must justify a design based on his research, tests, and professional opinion to ensure a submittal complies with all performance requirements outlined in 12VAC5-613-70 sections 13 through 16.

If a Level 1 review (per GMP 17.A) reveals a designer failed to address how design and performance requirements will be met, a written denial will be issued by VDH. The written denial must cite the specific section(s) of the regulations where a lack of information may exist.

Please note that when VDH denies a request for site approval (construction permit, letter, subdivision approval) for a reason that is correctable by the applicant, the owner may submit additional information as necessary within 90 days from the date the request was rejected. If the new application is received within 90 days, VDH will waive all state fees associated with the new application. This waiver may be granted no more than once per site. If the proposal is submitted pursuant to 32.1-163.6 of the *Code* then VDH staff must consult an Office of Environmental Health Services (OEHS) Technical Services Engineer before denying the application.

FAQ #70-002. Upon adoption of GMP 147 on April 30, 2009, GMP 112A, 114A, and 118A were rescinded. Attached to the rescinded policies was a clarification memorandum dated July 22, 2008; the document is currently attached to GMP 147 and identified as "Prior Clarification". The memorandum allows the "Grandfather Clause" to be used in cases where VDH has given prior written approval for systems designed with less than an 18" vertical separation distance to impervious strata. Is the "Clarification Memorandum" still in effect?
Answer: Yes. Under 12VAC5-613-70 B. of the *Emergency Regulations*, any plans not submitted under Va. Code 32.1-163.6 will be reviewed pursuant to the *Sewage Handling and Disposal Regulations*. All administrative guidance, memoranda, and policies issued to provide clarification to the administration of the *Sewage Handling and Disposal Regulations* which have not been rescinded will remain in effect.

Although, the July 22, 2008, memorandum referenced above may address rescinded policies, the "Grandfather Clause" guidance for lots with prior approval of systems with less than the required 18" vertical separation to an impervious strata remains valid for the four specific situations addressed in the memorandum document.

Guidance Concerning 12VAC5-613-80. Performance Requirements-Laboratory Sampling and Monitoring.

Clarifications.

12VAC5-613-80. Tables 3 and 4. If the flow is one gallon over in a particular category, then use the next higher flow category.

Frequently Asked Questions 12VAC5-613-80.

FAQ #80-001. Which systems require effluent sampling under 80.D?
Answer: All small AOSS (i.e., serve up to three single family residences or up to 1,000 gpd non-residential facilities) that disperse TL-2 or TL3 with applications filed on or after the effective date of the *Emergency Regulations.*

FAQ #80-002. Will existing (AOSS) in operation prior to the adoption of the *Emergency Regulations* be required to have laboratory sampling?
Answer: No. Laboratory sampling requirements only apply to AOSS permitted pursuant to applications filed on or after the effective date of this chapter. Although not required for an existing AOSS, some form of sampling, in addition to the field sampling and observations required by the *Emergency Regulations*, may be desired and deemed appropriate by an operator wishing to verify that an AOSS is functioning properly.

FAQ #80-003. Who is responsible for collecting samples?
Answer: While 80.D requires the system owner to "submit" samples, section 120.4 clarifies that the owner shall "have an operator collect any samples required by this chapter."

FAQ #80-004. When are the samples to be taken?
Answer: Initial samples are to be taken within 180 days of the date of issuance of the system Operation Permit; thereafter, every five years for systems with general approval. Results are due on the 15th of the month following the sampling.

FAQ #80-005. Is the sampling schedule different for treatment units not generally approved?
Answer: Yes. For small AOSS, after the first (180-day) sample is submitted, four additional samples are required during the first two years of operation, between 3-6 months apart. After these are submitted, annual sampling is required.

FAQ #80-006. For which constituents are the samples analyzed?
Answer: Samples collected from small AOSS must be analyzed for BOD_5, also, if the effluent is disinfected, fecal coliform or total residual chlorine (TRC). Samples collected for a large AOSS must be analyzed for BOD_5, TSS, Total Nitrogen, and TRC if the effluent is disinfected by chlorine or fecal coliform if the effluent is disinfected by a method other than chlorination (e.g., UV disinfection).

FAQ #80-007. Where are the samples to be collected?
Answer: The samples are to be taken after all treatment, but before discharge to the soil. System designers should ensure that an appropriate sampling point is made available. This may require some modification to some common system designs; for example, media filters that discharge directly from the media to the soil absorption area should have an adequate and accessible sampling point identified.

PART III

Operation and Maintenance.

Operation and Maintenance is essential for the function and longevity of onsite systems. The amount of resources required to implement the O&M program will depend on many factors: the level of technical expertise and experience of staff, the level of program development that already exists, and the number of alternative onsite sewage disposal systems in each district. The following guidance suggests a method for prioritizing activities related to the *Emergency Regulations*. Health Districts should focus their limited resources in the following order and manner when implementing the *Emergency Regulations*.

1. Identify and repair failing AOSSs. As noted earlier in this document, correcting failing onsite sewage systems, conventional and alternative, is a priority with VDH. The operation and maintenance of AOSS must be viewed as an integral part of VDH's overall strategy for managing onsite sewage systems. For example, it would be inappropriate to concentrate resources on compliance and enforcement of AOSS operator requirements at the expense of efforts to correct failing conventional systems. Health District and local health departments will be challenged to find the proper balance between existing program priorities and the new requirements of the *Emergency Regulations*.

2. Train environmental health staff to administer the regulations in a consistent and knowledgeable manner. All environmental health staff working in the AOSS program should have a thorough knowledge of the *Emergency Regulations*, an understanding of how to implement them and the agency's goals, and they should be intimately familiar with the agency's data gathering capabilities, including an inventory of systems.

3. Collaborate and communicate with designers, operators, and contractors to foster a mutual understanding of *Emergency Regulations* and their implementation.

4. Continue developing an inventory of all alternative onsite sewage systems in accordance with GMP #149.

5. Educate system owners. Health departments, private designers, contractors, and operators all have an obligation to help owners understand their responsibilities under the *Emergency Regulations*.

   Appendix 1 is a sample letter that should be used to initially contact property owners about the new requirements. Staff should work with their public information officer to develop talking points. Written communications should be clear, informative, and non-threatening.

6. Track compliance with the *Emergency Regulations* as follows:

   a) Document reportable incidents (Operator Requirement). Operators are required to notify VDH of reportable incidents. Health Districts should make an effort to educate operators of this requirement.

b) Contact owners who fail to acknowledge they have a relationship with an operator. Owners of alternative onsite sewage systems are required to maintain a relationship with an operator.

c) Verify operator site visits. Owners of AOSS are required to have an operator visit the AOSS at the frequency required by the regulations. Initially, Health Districts should focus compliance efforts in this area to large AOSS.

   Systems with an average daily flow equal to or less than 1,000 gpd which are within the first 180 days of operation should have an operator visit. Systems with an average daily flow equal to or less than 1,000 gpd that had an operation permit issued more than 180 days before the effective date of the regulations are required to have a visit every 12 months. Compliance efforts for these systems should be addressed when the final regulations take effect.

d) Verify samples are submitted in accordance with the *Emergency Regulations*. Owners of alternative onsite sewage systems that are not designed to discharge septic tank effluent are required to have an operator take samples at certain frequencies. Health Districts should direct sampling compliance efforts to the first 180 days of operation of a system. Owners of small AOSS systems that have been in operation for more than 180 days are required to sample every five years when generally approved technology is used. Sampling after 180 days will only take effect after the *Emergency Regulations* expire; hence, sampling after 180 days for generally approved technology should be addressed after the final regulations control.

e) Verify submissions comply with local ordinances related to Chesapeake Bay requirements. The *Emergency Regulations* (12VAC5-613-120.7) were written to eliminate to the greatest extent possible conflicts with local Chesapeake Bay ordinances. Under the *Emergency Regulations* owners are required to comply with the "<u>onsite sewage system requirements contained in local ordinances adopted pursuant to the Chesapeake Bay Preservation Act.</u>" Questions and concerns about the applicability of local ordinances, including Chesapeake Bay protection ordinances, must always be referred to a county attorney or other qualified local official.

f) Verify compliance with other provisions of the *Emergency Regulations*. Health Districts should only consider enforcing the owner requirements listed below as circumstances warrant or as part of another enforcement action:
   - Operator to keep a log of each system for which he is responsible;
   - Have the AOSS operated and maintained by an operator;
   - Have operator collect samples;
   - Keep operators log of system and transfer to future owners; and
   - Keep operation and maintenance manual onsite and transfer to future owner.

Evaluating Inspection Results.

When an operator reports that an AOSS is not functioning as designed or is failing to achieve one or more performance requirements (12VAC5-613-170.4.c), the local health department is expected to follow up with the owner. It should not be necessary on a routine basis for staff to perform detailed reviews of those reports that indicate satisfactory performance. Local health departments may, as resources and priorities allow, perform limited reviews, including onsite compliance inspections, as a spot-check or control measure to ensure the accuracy of all reports received from operators.

Frequently Asked Questions 12VAC5-613-100.

FAQ #100-001. Pursuant to 12VAC5-613-100, an Operator must notify the appropriate local health department when the relationship with an owner ends. How will an operator report this to the local department and how will the department respond once notified?
Answer: Under 12VAC5-613-170, operators will be able to notify local health departments by submitting a report on VDH's web-based reporting system. Although the web-based system was designed for maintenance and monitoring reports, it will also allow operators to report terminated relationships. Health Districts may periodically run a report from VENIS showing all AOSS owners that currently lack a relationship with an operator. The timeline for running reports will be at the discretion of the District Environmental Health Manager.

Once the local health department has been notified by an AOSS Operator that a current relationship with an AOSS owner has ended, VDH should send a notification letter to the owner and a copy to the former service provider. An example of a notification letter that should be sent to an AOSS owner is attached as Appendix 7.

Guidance Concerning 12VAC5-613-130. Operator Requirements for AOSS with Flows up to 0.04 MGD, Minimum Frequency of Visits.

Clarification.

12VAC5-613-130. Table 5. If the flow is one gallon over in a particular category, then use the next higher flow category.

Guidance Concerning 12VAC5-613-140. Operator Requirements for Systems with Flows Greater than 0.04 MGD.

A. For large AOSS with design flows greater than 40,000 gpd, VDH will defer to the manning recommendations in the Department of Environmental Quality's (DEQ) *Sewage Collection and Treatment Regulations (SCAT Regulations)* 9VAC25-790 Table 1. This table describes the operator license requirement for the operator in charge and the recommended hours of attendance by both the licensed operator and the overall hours that a facility should be manned.

The regulations of the Department of Professional and Occupational Regulation (DPOR) regarding operators of onsite systems, *Virginia Board for Waterworks and Wastewater Works*

Operators and Onsite Sewage System Professionals (18VAC 160-20-74), state that facilities with design flows over 10,000 gpd must have an operator with both the onsite operator license AND the applicable wastewater operator license. While all AOSS must have a licensed AOSS operator, large AOSS with a design flow over 10,000 gpd must also have an operator with the appropriate wastewater works license from the table below.

B. In Table 1 of the *SCAT Regulations*, a facility may be recommended to be manned up to 24 hours a day, but the recommendation for a licensed operator to be present on site is often less. The licensed operator may be absent from the site during the manned hours only if he is accessible by phone. Only the responsible licensed operator in charge can make operation decisions, but he can relay those decisions by phone or electronically to on site personnel.

C. Table 1 of the *SCAT Regulations* has a note (5) that states unless a facility is designated a treatment facility by DEQ, an operator is not required. This footnote is superseded by the DPOR regulations (*Virginia Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals*). Section 140.C of the *Emergency Regulations* clarifies that the operator requirements for a VDH permitted AOSS cannot be waived.

D. The manning requirements presented in the *SCAT Regulations* were developed 15 years ago for discharging systems without remote monitoring and control systems. There have been significant advances in remote monitoring and control capabilities in recent years. Currently there are no set guidelines for manning large AOSS other than the *SCAT Regulations*, so it is recommended that these be provided as the first recommendation to an owner. Reductions to the recommendations in Table 1 will be considered by OEHS case by case, based on a justification from the owner/operator/engineer. That justification must explain in detail why a reduction should be granted and include information on alarms, backup power, remote monitoring, the hierarchy for contacting personnel, and the time to accomplish routine maintenance, etc.

Sewage Collection and Treatment Regulations (9VAC25-790)
TABLE 1.

CLASSIFICATION OF TREATMENT WORKS AND RECOMMENDED MINIMUM HOURS OF ATTENDANCE BY LICENSED OPERATORS AND OPERATING STAFF[1].

Treatment Works Classification & Treatment Required Classification of the Operator in responsible charge	Treatment Works Capacity (MGD)	Treatment Process Methods	Recommended Attendance by a Licensed Operator [2, 3] Time-Hrs.	Recommended Daily Hours That Works Should Be Manned [2, 3]
I	Greater than 10 MGD	Biological Treatment Methods		
		(A) Suspended Growth Reactors	24	24
		(B) Aerated Lagoons or Constructed Wetlands	16	24
		(C) Filters or Other Attached Growth Contactors	24	24
		(D) Processes Utilizing Biological Nutrient Control	24	24
		(E) Processes Utilizing Land Treatment	During Land Application	- -
I	Equal to or less than 10 MGD but greater than 5 MGD	Biological Treatment Methods		
		(A) Suspended Growth Reactors	16	24
		(B) Aerated Lagoons or Constructed Wetlands	8	16
		(C) Filters or Other Attached Growth Contactors	16	24
		(D) Processes Utilizing Biological Nutrient Control	16	24
		(E) Processes Utilizing Land Treatment	During Land Application	- -
I	Greater than 5 MGD	Advanced Waster Treatment (AWT)		
		(A) Ammonia Stripping	24	24
		(B) Breakpoint Chlorination	24	24
		(C) Carbon Adsorption	24	24
		(D)Chemical Coagulation, Flocculation, Precipitation	24	24
		(E) Filtration	24	24
		(F) Demineralization (Ion Exchange, Reverse Osmosis, Electrodialysis)	24	24
I	Equal to or less than 5 MGD but greater than 2.5 MGD	Advanced Waster Treatment (AWT)		
		(A) Ammonia Stripping	16	24
		(B) Breakpoint Chlorination	16	24
		(C) Carbon Adsorption	16	24
		(D)Chemical Coagulation, Flocculation, Precipitation	16	24
		(E) Filtration	16	24
		(F) Demineralization (Ion Exchange, Reverse Osmosis, Electrodialysis)	16	24
		(G) Microstraining/Screening	16	24
II	Greater than 2.5 MGD but equal to or less than 5.0 MGD	Biological Treatment Methods		
		(A) Suspend Growth Reactors	8	24
		(B) Aerated Lagoons or Constructed Wetlands	8	26
		(C) Filters or Other Attached Growth Contactors	8	24
		(D) Processes Utilizing Biological Nutrient Control	8	24
		(E) Processes Utilizing Land Treatment	During Land Application	- -

II	Greater than 0.5 MGD but equal to or less than 2.5 MGD	Biological Treatment Methods (A) Suspended Growth Reactors (B) Aerated Lagoons (C) Filters or Other Attached Growth Contactors (D) Processes Utilizing Biological Nutrient Control (E) Processes Utilizing Land Treatment	 8 4 8 8 During Land Application	 16 8 16 16 - -
II	Greater than 0.1 MGD but equal to or less than 2.5 MGD	Advanced Waste Treatment (A) Ammonia Stripping (B) Breakpoint Chlorination (C) Carbon Adsorption (D) Chemical Coagulation, Flocculation, Precipitation (E) Filtration (F) Demineralization (Ion Exchange, Reverse Osmosis, Electrodialysis)	 8 8 8 8 8 8	 16 16 16 16 16 16
III	Greater than 0.04 MGD but Equal to or less than 0.5 MGD	Biological Treatment Methods (A) Suspend Growth Reactors (B) Aerated Lagoons or Constructed Wetlands (C) Filters or Other Attached Growth Contactors (D) Processes Utilizing Biological Nutrient Control (E) Processes Utilizing Land Treatment	 8 8 8 8 During Land Application	 8 8 8 8 - -
III	Greater than 1.00 MGD	Natural Treatment Methods	4	8
III	Greater than 0.001 MGD but equal to or less than 0.1 MGD	Advanced Waste Treatment (A) Ammonia Stripping (B) Breakpoint Chlorination (C) Carbon Adsorption (D) Chemical Coagulation, Flocculation, Precipitation (E) Filtration (F) Demineralization (Ion Exchange, Reverse Osmosis, Electrodialysis)	 8 8 8 8 8 8	 8 8 8 8 8 8
IV	Greater than 0.001 MGD but equal to or less than 0.04 MGD	Biological Mechanical Methods [4]	4 [5]	4 [5]
IV	Greater than 0.001 MGD but equal to or less than 1.00 MGD	Natural Treatment Methods [4]	4 [5]	4 [5]

Notes:

[1] Specific requirements for the number of licensed operators and the number and qualifications of the operating staff specified in accordance with this chapter and in consultation with and concurrence by the commissioner are to be evaluated on a case-by-case basis in accordance with operational reliability and permit compliance data. Such requirements are to be included in the Operation and Maintenance Manual.

[2] If a particular treatment unit or units are discontinued or not in use for a significant period of time and the remaining treatment processes result in a lower classification for the treatment works, the licensed operator and operating staff requirements during that period may be reduced to that required for the type and classification of treatment process remaining in service, after concurrence by the commissioner.

[3] If more than one sewage treatment process is used, the more stringent requirements among the processes will apply. In some cases, complexity of operation for several AWT processes in sequence may require more than the minimum coverage.

[4] Mechanical treatment processes are defined as those containing aerated and mixed flows using electrical or outside energy sources.

[5] An operator is not required unless the facility is designated as a wastewater treatment works by DEQ.

Guidance Concerning 12VAC5-613-150. Operation and Maintenance Manual.

Frequently Asked Questions 12VAC5-613-150.

FAQ #150-001. Can VDH issue a temporary operation permit for situations other than what is described in 12VAC5-613-150.B, such as not having a completion statement, water sample result, etc.?
Answer: No. A sample temporary operation permit is included as Appendix 2.

FAQ #150-002. In cases where an operator cannot obtain a copy of the O&M manual for an existing system permitted prior to the adoption of the *Emergency Regulations*, what will be used to determine the specific required O&M?
Answer: Licensed operators are required to have the skills and knowledge needed to operate and maintain non-conventional treatment works. It is expected that an operator will use his skills, knowledge, and experience to complete all the appropriate O&M tasks necessary to ensure proper functioning of an AOSS.

The Operator should attempt to gain all O&M information available relating to a specific AOSS. This may be accomplished by obtaining all the available system information the designer and manufacturer provided to the owner, requesting a file search at the local health department and contacting the system designer if necessary.

APPENDIX 1

COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF HEALTH
<OfficeName>
<OfficeAddress>
<OfficeCity>, <OfficeState> <OfficeZip>
<OfficePhone>

Date <Today>

<OwnerName>
<OwnerMailingAddress>
<OwnerMailingCity>, <OwnerMailingProvince> <OwnerMailingPostalCode>

Alternative Onsite Sewage System Owner Responsibilities

Health Dept. ID# <HDeptId>
Tax Map # <LegalDescriptionTaxMap>
Subdivision <LegalDescriptionSubdivision>

Dear **<OwnerName>,**

Records on file at the <OfficeName> indicate that you are the owner of an Alternative Onsite Sewage System (AOSS) located at **<PhysicalSuite> <PhysicalBuilding> <PhysicalStreet>, <PhysicalCity>, <PhysicalProvince> <PhysicalZip>**. This letter is meant to provide you with important information regarding owner responsibilities and the proper operation and maintenance of your AOSS.

Legislation approved in 2009 (Acts of Assembly, 2009, Ch. 0220) required the Board of Health to adopt regulations that establish performance requirements and horizontal setbacks for all AOSS necessary to protect public health and the environment. On July 1, 2009, the Virginia Department of Health implemented interim requirements which required owners to operate AOSS according to manufacturer's recommendations until final regulations could be adopted. With the adoption of the ***Emergency Regulations for Alternative Onsite Sewage Systems*** (***Emergency Regulations***) there are new requirements regarding operation and maintenance of all AOSS. The ***Emergency Regulations*** can be found online at http://register.dls.virginia.gov/emergency_regs/emergencyregs.htm and the VDH website.

The Commonwealth of Virginia, State Board of Health ***Emergency Regulations*** **(12VAC5-613)** outlines owner responsibilities. Owners are required to:

1. Maintain a relationship with a licensed operator (a relationship with an operator means an agreement between the owner of an AOSS and operator wherein the operator has been retained by the owner to operate the AOSS in accordance with the requirements of the ***Emergency Regulations***, maintenance contracts are not required);
2. Have an AOSS operated and maintained by a licensed operator (Licensed operators for an AOSS may be found by visiting the Department of Professional and Occupational Regulation website at www.dpor.virginia.gov.);
3. Have an operator visit the AOSS at the frequency required by the ***Emergency Regulations*;**
4. Have an operator collect any samples required by the regulations;
5. Keep a copy of the maintenance log provided by the operator on the property where the AOSS is located, make the log available to VDH upon request, and make a reasonable effort to transfer the log to any future owner;
6. Keep a copy of the Operation and Maintenance Manual (O&M Manual) for the AOSS on the property where the AOSS is located, make the manual available to VDH upon request, and make a reasonable effort to transfer the O&M Manual to any future owner; and
7. Comply with the onsite sewage system requirements contained in local ordinances adopted pursuant to the Chesapeake Bay Preservation Act (§ 10.1-2100 et. seq.) and the *Chesapeake Bay Preservation Area Designation and Management Regulations* (9VAC10-20) when an AOSS is located within a Chesapeake Bay Preservation Area.

Proper operation and maintenance of an AOSS is required and necessary to ensure continued functioning of the system and protection of public health and the environment. Operation and Maintenance information for your system may be found by contacting the system designer, the local health department or by visiting http://www.vdh.virginia.gov/EnvironmentalHealth/Onsite/newsofinterest/index.htm.

Please contact the <OfficeName> within 30 days to provide us with the name and license number of your AOSS operator. If you have any questions regarding this letter, or feel that you have received this letter in error please contact the <OfficeName> at <OfficePhone>. Your cooperation and timely response are appreciated.

Sincerely,

<EHS>
Environmental Health Specialist Senior

APPENDIX 2

<OfficeName>
<OfficeAddress>
<OfficeCity>, <OfficeProvince> <OfficePostalCode>
<OfficePhone> Voice
<OfficeFax> Fax

Alternative Onsite Sewage System Temporary Operation Permit

Property Owner

<OwnerName>
<OwnerMailingAddress>
<OwnerMailingCity>, <OwnerMailingProvince>
<OwnerMailingPostalCode>
Phone: <OwnerContactPhone>

Health Dept. ID: **<HDeptID>**
<?#LegalDescriptionTaxMap?""?"Tax Map:">
<LegalDescriptionTaxMap>
<?#LegalDescriptionGPIN?""?"GPIN:" > <LegalDescriptionGPIN>
Locality: <PhysicalMunicipality>

Property Location

Property Address: <PhysicalSuite> <PhysicalBuilding> <PhysicalStreet>
<PhysicalCity>, <PhysicalProvince> <PhysicalPostalCode>
<?#LegalDescriptionSubdivision?""?"Subdivision:"> <LegalDescriptionSubdivision>
<?#LegalDescriptionSection?""?", Section">
<LegalDescriptionSection><?#LegalDescriptionBlock?""?", Block">
<LegalDescriptionBlock><?#LegalDescriptionLot?""?", Lot"> <LegalDescriptionLot>
Directions: <PhysicalDirections>

<OwnerName> is hereby granted permission to *temporarily* operate a **<FacilityType> Sewage System** at the above referenced location, having a design capacity of **<SewageDailyFlow>** gallons per day<?#SewageResidentialOrCommercial=Residential?", or"?" maximum."> **<SewageBedroomNumber>** <?#SewageResidentialOrCommercial=Residential?"bedrooms maximum">

<?#FacilityPermitConditions?""?"This permit is issued based on the following use condition(s):">
<FacilityPermitConditions>

This temporary permit is issued in accordance with Section 12VAC 5-613-150B of the *Emergency Regulations for Alternative Onsite Sewage Systems* (*Emergency Regulations*) of the Virginia Department of Health. It shall be the responsibility of the owner to have the designer submit an Operation & Maintenance (O&M) Manual to the local health department within 180 calendar days. Failure to submit the O&M Manual prior to the expiration of this temporary operation permit shall be deemed a violation of the *Emergency Regulations* (12VAC5-613-10 et seq). An Operation Permit will be issued upon receipt of an O&M Manual by the local health department. The designer shall provide a copy of the O&M manual to the owner.

This Temporary Operation Permit expires on : <TodayPlus180Days>

<Today>	<EHS>	_____
Effective Date	EHS	Signed <ND#Today>

APPENDIX 3

EMERGENCY REGULATIONS. LEVEL 1 AND LEVEL 2 REVIEWS.

VDH expects that the majority of the designs submitted for our review will continue to be those under the *Sewage Handling and Disposal Regulations*, now modified somewhat by the use of the loading rates provided in Table 1 of the *Emergency Regulations*. For all practical purposes, review of these submittals remains unchanged from those previously accomplished using only the *Sewage Handling and Disposal Regulations*.

The following procedural guidelines are intended to serve as guidance for staff who will review submittals of alternative system designs which do not fall under prescriptive designs of the *Emergency Regulations* and the *Sewage Handling and Disposal Regulations* (i.e. designs under Va. Code § 32.1-163.6) and which match treatment and site parameters in innovative ways.

Guidelines for designs previously submitted under § 32.1-163.6 will be technically evaluated as Level 1 Reviews per protocol established by GMP 17.A for designs either less than or greater than 1,000 gallons per day.

Submittals under 32.1-163.6 will continue to challenge VDH staff with designs and site conditions that do not necessarily conform to familiar prescriptive requirements. Nevertheless, it should not be necessary on a routine basis to conduct Level 2 Reviews of every proposal submitted by an engineer. Health Districts should continue to review a sample of each engineers work via Level 2 Reviews as deemed appropriate by VDH staff.

The following procedures are provided to encourage consistence performance and guidance for VDH staff in conducting these reviews.

1. The purposes of the Level 2 Review are to ensure that public health and the environment are protected and to assess the performance of private sector evaluators and designers by sampling the work submitted by AOSE/PE or PE consultants.

    a. Level 2 Reviews may be conducted at any time, however, local and district health departments are *strongly encouraged* to complete them prior to approving or denying an application during the time limits specified by the *Code*. There may be occasions when local and district health departments will need to conduct Level 2 Reviews after an approval has been issued. These include, but are not limited to, complaints from owners, AOSE/PEs, and the public regarding an approved site or situations where VDH has reason to believe that an AOSE/PE or PE has certified one or more sites that do not substantially comply with the performance requirements of the *Emergency Regulations*. In such cases it may be necessary to conduct additional Level 2 Reviews of approved sites with VDH Soil Scientists, to determine whether public health and the environment are being threatened.

and other actions necessary to assure that a site and/or design complies with the performance requirements of the *Emergency Regulations*.

c. The local or district health department will perform Level 2 Review using the best methods available at the time, including evaluating open backhoe pits or other excavations and using a hand auger. An owner will not be required to hire a backhoe for a Level 2 Review if one is not available at the time of the review.

d. To the greatest extent possible, the local or district health department should notify the owner when it intends to conduct a Level 2 Review. Such notice may be by telephone or other electronic means (properly documented in the file) or it may be in writing. The local or district health department must send a copy of the completed report to the owner and the appropriate AOSE/PE or PE.

2. If a Level 2 Review reveals that a site and/or design does not substantially comply with the performance requirements established under the *Emergency Regulations* or where risk may be imposed to public health or the environment, the application will be denied after consultation with OEHS Technical Services Engineer.

APPENDIX 4

COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF HEALTH

Report of AOSS Pump-Out

Property Address:

_____

City/County: _____

Owner's Name:

_____

Tax Map/GPIN #: _____ ***Subdivision and Lot#*** _____

Company Name: _____

Company Address: _____

License Number: _____

Sewage Handling Permit Number: _____

Date Pumped: _____ ***Gallons Pumped:*** _____

Disposal Location: _____

Indicate which components of the AOSS were pumped: Septic tank _____
Treatment Unit _____ ***Pump Tank*** _____
Other (describe) _____

Was this a Routine/Maintenance Pump-Out? _____ ***(indicate Yes or No; If No please explain reason for Pump-Out):***

_____

_____

_____

12VAC5-613-110. Sludge and solids removal.
Any person who pumps or otherwise removes sludge or solids from any septic tank or treatment unit of an AOSS shall file a report with the appropriate local health department on a form approved by the Division.

Name of Contractor: _____ ***Date:*** _____

NOTE: Any work other than that defined as maintenance in the *Emergency Regulations for Alternative Onsite Sewage Systems* ***requires a written permit by the Health Department.***

APPENDIX 5

Emergency Regulations for Alternative Onsite Sewage Systems

Contents:

12VAC5-613

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20.3	Horizontal setbacks
20.4	Supervision of onsite systems
20.5	Quality of ground and surface water
20.6	Issuance of permits
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30.B	Performance requirements—for systems after effective date
30.C	O&M requirements—for all AOSS
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30.H	Four requirements for 32.1-163.6 designs
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50	**Violations, enforcement**
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70.A.6	Accommodation of peak flow
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70.A.7.b	Designer's responsibility
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70.A.9	TL-3 and disinfection required when:
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70.A.15	Nuisance
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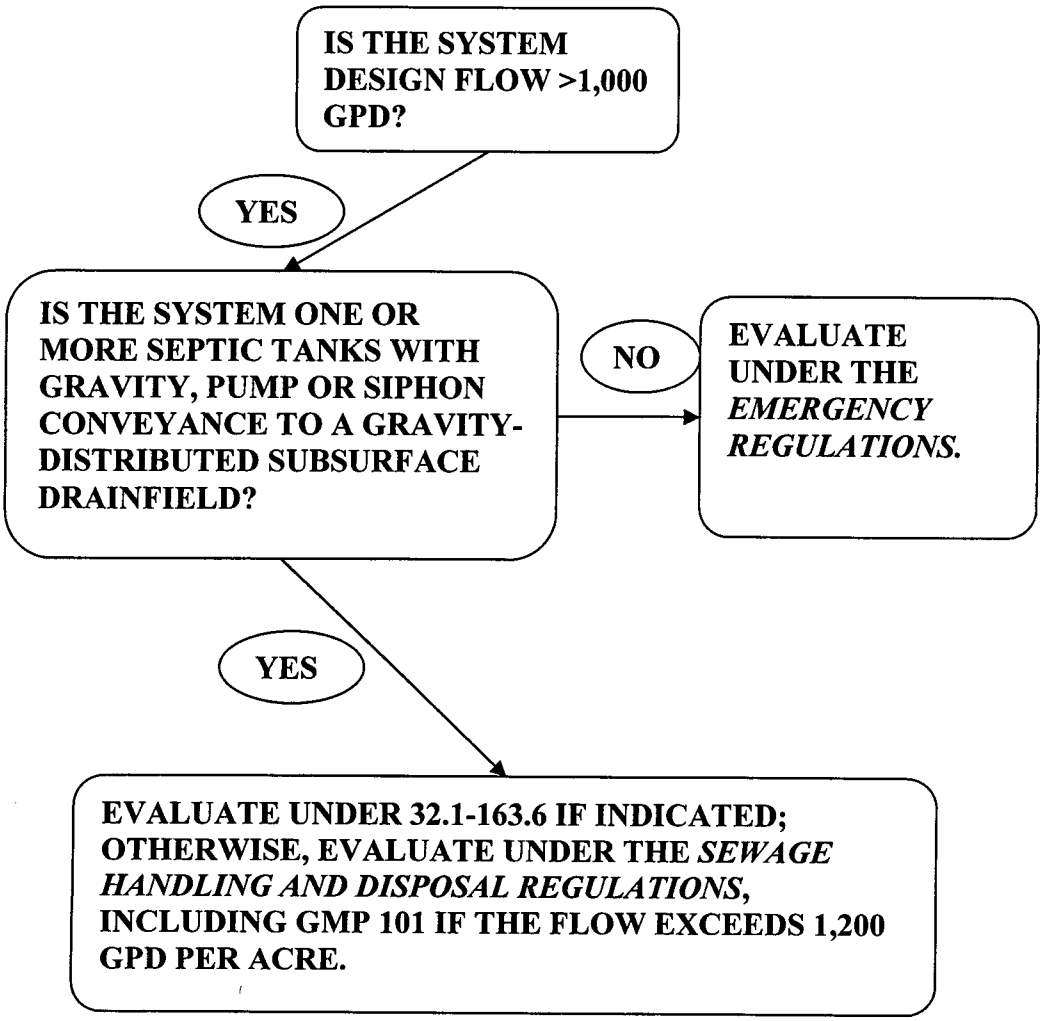
APPENDIX 6

Large AOSS, Large Conventional Systems and Mass Drainfields



APPENDIX 7

COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF HEALTH
<OfficeName>
<OfficeAddress>
<OfficeCity>, <OfficeState> <OfficeZip>
<OfficePhone>

Date *<Today>*

<OwnerName>
<OwnerMailingAddress>
<OwnerMailingCity>, <OwnerMailingProvince> <OwnerMailingPostalCode>

RE: NOTICE OF OWNER RESPONSIBILITY

Health Dept. ID# *<HDeptId>*
Tax Map # *<LegalDescriptionTaxMap>*
Subdivision

Dear *<Owner:*

The *<Department>* has been notified by *<Operator or Company Name>* that your current relationship has ended. Under 12VAC5-613-100 of the *Emergency Regulations for Alternative Onsite Sewage Systems* (*Emergency Regulations*), an operator is required to notify the appropriate local health department when his relationship with an Alternative Onsite Sewage System (AOSS) owner terminates.

The Department's records indicate that *<Operator or Company Name>* was acting as an operator, providing routine maintenance and monitoring services for your AOSS and we have not been informed with whom you have elected to have a relationship.

12VAC5-613-120 of the *Emergency Regulations* requires that all owners of an AOSS maintain a relationship with an operator. An operator is any individual employed or contracted by an AOSS owner, who is licensed or certified under Chapter 23 (§54.1-2300 et seq.) of Title 54.1 as being qualified to operate, monitor, and maintain an alternative onsite sewage system. Licensed operators can be found at www.dpor.virginia.gov.

Please contact the *<Office>* Health Department within 30 days to identify the <u>name and license number</u> of your current operator.

Thank you for your cooperation and timely response. If you have any questions regarding this letter, please contact the *<OfficeName>* at *<OfficePhone>*.

Sincerely,

<EHS>
Environmental Health Specialist Senior