



Virginia
Regulatory
Town Hall

townhall.virginia.gov

Emergency Regulation and Notice of Intended Regulatory Action (NOIRA) Agency Background Document

Agency name	Board of Health/Virginia Department of Health
Virginia Administrative Code (VAC) citation	12VAC5-613
Regulation title	Emergency Regulations for Alternative Onsite Sewage Systems
Action title	New regulations to establish requirements for performance and operation and maintenance of alternative onsite sewage systems.
Date this document prepared	November 13, 2009

This form is used when an agency wishes to promulgate an emergency regulation (to be effective for up to one year), as well as publish a Notice of Intended Regulatory Action (NOIRA) to begin the process of promulgating a permanent replacement regulation.

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 36 (2006) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Preamble

The APA (Code of Virginia § 2.2-4011) states that an “emergency situation” is: (i) a situation involving an imminent threat to public health or safety; or (ii) a situation in which Virginia statutory law, the Virginia appropriation act, or federal law requires that a regulation shall be effective in 280 days or less from its enactment, or in which federal regulation requires a regulation to take effect no later than 280 days from its effective date.

- 1) Please explain why this is an “emergency situation” as described above.
- 2) Summarize the key provisions of the new regulation or substantive changes to an existing regulation.

-
- 1) Legislation approved in 2009 (Acts of Assembly, 2009, Ch. 0220) requires the Board of Health (Board) to promulgate regulations within 280 days. The regulations must establish performance requirements and horizontal setbacks for alternative onsite sewage systems (AOSS) necessary to protect public health and the environment; the regulations must also contain operation and

maintenance requirements consistent with the requirements for AOSS § 32.1-164 of the Code of Virginia (Code).

- 2) The new regulations are supplemental to the existing Sewage Handling and Disposal Regulations (12VAC5-610, "SHDR") which contain permitting and other requirements for onsite sewage systems, including AOSS. These new regulations establish performance (and monitoring) requirements for AOSS as well as new requirements for operation and maintenance. The new regulations require that a licensed operator visit each AOSS on a mandated frequency and file a report. The regulations also establish horizontal setback requirements for AOSS designs submitted by professional engineers under § 32.1-163.6 of the Code.
- 3) The statutory deadline for promulgating the emergency regulations is April 6, 2010. March 1, 2010, will be the effective date of the emergency regulations.

Legal basis

Other than the emergency authority described above, please identify the state and/or federal legal authority to promulgate this proposed regulation, including: 1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and 2) promulgating entity, i.e., agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.

The Board is authorized, pursuant to § 32.1-12 of the Code, to promulgate and enforce regulations. Under § 32.1-164 of the Code the Board is authorized to promulgate regulations governing onsite sewage systems to protect public health, required to exercise due diligence to protect the quality of both surface water and ground water, and is required to establish a program for the operation and maintenance of AOSS.

Purpose

Please describe the subject matter and intent of the planned regulatory action. Also include a brief explanation of the need for and the goals of the new or amended regulation.

The new regulation establishes requirements for AOSS in three areas:

- 1) Performance requirements;
- 2) Operation and maintenance requirements; and
- 3) Horizontal setbacks for AOSS designed pursuant to § 32.1-163.6 of the Code.

The needs and goals for this regulation fall into three conceptual areas:

- 1) The current performance requirements contained in the SHDR are inadequate for AOSS.
- 2) Statutory changes in 2008 (§ 32.1-163.6 of the Code) allow licensed professional engineers to design AOSS that are not required to comply with the SHDR. Instead, these designs must be compliant with performance requirements established by the Board. Since current performance requirements are inadequate, these regulations seek to establish measureable performance requirements appropriate for all AOSS, including the engineered designs under § 32.1-163.6 of the Code.

- 3) Proper operation and maintenance are essential to ensure that AOSS function as designed.

Need

Please detail the specific reasons why the agency has determined that the proposed regulatory action is essential to protect the health, safety, or welfare of citizens. In addition, delineate any potential issues that may need to be addressed as the regulation is developed.

The SHDR were conceived almost three decades ago and were last revised in 2000. As noted above, the SHDR lack measurable performance requirements. They are prescriptive in nature and were intended to establish construction and location requirements primarily for conventional septic systems. As a result, there are few performance expectations for onsite sewage systems with respect to how they function in the environment and little, if any, monitoring to determine whether systems actually meet any water quality or public health standards. With the advent of new technologies for treating and dispersing wastewater, the increased use of AOSS in more environmentally sensitive areas, and growing concern and interest in protecting ground and surface water quality, most stakeholders agree that the SHDR are inadequate because they do not establish measurable performance requirements for AOSS. These new regulations establish measurable performance requirements for AOSS.

Legislation approved in 2008 (§ 32.1-163.6 of the Code) requires the Virginia Department of Health (VDH) to accept designs for onsite sewage systems from licensed professional engineers. Designs under this law are not required to comply with the SHDR, instead they must be compliant with standard engineering practice, performance requirements established by the Board, and those horizontal setback requirements necessary to protect the public health and the environment. Most of the designs submitted under the new law are for AOSS. In the absence of measurable performance requirements, VDH has had difficulty evaluating the engineered designs submitted under § 32.1-163.6 of the Code. Having measurable performance requirements for AOSS will improve the agency's review processes for designs under § 32.1-163.6 of the Code and improve its ability to regulate the ongoing performance of these engineered designs to assure that public health and the environment are being adequately protected. Additional legislative changes in 2009 emphasized the need for adequate performance standards to be applied to the designs produced under § 32.1-163.6 of the Code. Establishing horizontal setbacks for these engineered systems is also an essential part of providing adequate public health and environmental protections.

Legislation approved in 2007 (§ 32.1-164.H of the Code) requires the Board to establish a program for the operation and maintenance of AOSS. Stakeholders have long recognized that AOSS can provide sound options for long-term wastewater needs as long as they are properly operated and maintained. The SHDR contain essentially no ongoing operation and maintenance requirements for either conventional or AOSS. Establishing operation and maintenance requirements for AOSS will ensure that these systems continue to function as designed, thereby protecting public health and the environment.

Substance

Please detail any changes that will be proposed. Please outline new substantive provisions, all substantive changes to existing sections, or both where appropriate.

The emergency regulations contain the following provisions which are new:

- 1) New definitions specific to AOSS.
- 2) It is a violation to fail to achieve one or more performance requirements, to accomplish any mandated visit, or any operation, maintenance, monitoring, sampling, reporting, or inspection requirement.
- 3) Before the Department will issue an operation permit for an AOSS the owner must establish a relationship with a licensed operator. The owner must maintain a relationship with an operator during any period the AOSS is in use.
- 4) Before the Department will issue an operation permit for an AOSS, the owner must record an instrument which complies with § 15.2-2157.E of the Code in the land records of the appropriate circuit court.
- 5) When all or part of a project area is to be used in the management of nitrogen from a large AOSS, the owner must record legal documentation in the land records to protect and preserve the land area in accordance with the nitrogen management methods established by the designer.
- 6) The emergency regulations describe three effluent qualities- septic tank effluent, TL-2, and TL-3.
- 7) The regulations establish a number of performance requirements for AOSS which include:
 - A) A prohibition against the presence of raw or partially treated sewage on the ground surface.
 - B) A prohibition against the backup of sewage into plumbing fixtures.
 - C) Hydraulic loading rates based on one of two different effluent qualities (TL-2 or TL-3).
 - D) AOSS designed to disperse septic tank effluent requires at least 12 inches of soil cover in the soil treatment area.
 - E) TL-3 effluent and disinfection must be used whenever one or more of the following apply:
 - a. there is less than 12 inches of vertical separation to a limiting feature in the soil treatment area;
 - b. there is less than 6 inches of vertical separation to a limiting feature in the naturally-occurring soil below the soil treatment area; or
 - c. the AOSS utilizes surface application of effluent, such as spray irrigation.
 - F) A requirement that the designer demonstrate that water mounding will not adversely affect the functioning of the soil treatment area whenever the vertical separation to a permeability limiting feature is less than 18 inches.
 - G) A ground water performance requirement with respect to fecal coliform organisms. After passing through a treatment unit or septic tank and the required vertical soil separation, the concentration of fecal coliform organisms in effluent is not to exceed 200 cfu/100 ml.
 - H) When disinfection is required, the effluent quality prior to dispersal to the soil treatment area must not exceed 200 cfu/100 ml.
 - I) Performance requirements related to site conditions (vertical separation to limiting features) and effluent quality:

- a. Septic tank effluent may be applied only on sites where the vertical separation is comprised of at least 18 inches of naturally-occurring soils (TL-2 and TL-3 effluents may also be applied).
 - b. Sites with less than 18 inches of vertical separation, but at least 12 inches of vertical separation require TL-2 or TL-3 effluent.
 - c. Sites with less than 12 inches vertical separation require the combination of TL-3 effluent and disinfection and have an organic loading rate limit of 0.00021 lb/day/sf.
- J) Each large AOSS must comply with a total nitrogen limit of 5 mg/l as nitrogen at the project area boundary. The designer is required to provide calculations and modeling to demonstrate, prior to the issuance of a construction permit, that the proposed AOSS will meet this nitrogen requirement.
 - K) AOSS must be designed and constructed so as to be structurally sound, resist infiltration and inflow, minimize odor or other nuisances, and maintain forward flow.
 - L) Spray irrigation systems are limited to 1,000 gallons per day.
 - M) For purposes of assisting owners in obtaining such funds as may be available for reducing nitrogen discharges from AOSS, including Betterment Loans and grants from the Water Quality Improvement Fund, the Department shall evaluate AOSS designs and establish the nitrogen reducing capacities thereof.
 - N) When sand, soil, or soil-like material is used to increase the vertical separation, the designer shall specify methods and materials that will achieve the performance requirements of this chapter.
 - O) Applications submitted pursuant to § 32.1-163.6 of the Code require a site characterization report in accordance with criteria set forth in the emergency regulations.
 - P) All large AOSS require either TL-2 or TL-3 effluent.
 - Q) Plans and specifications for AOSS must either be sealed by a licensed professional engineer, or prepared under an exemption to the licensing requirements of Title 54.1 of the Code. If a designer prepares plans and specification pursuant to an exemption, the designer must certify compliance with the exemption.
 - R) Laboratory sampling is required for all AOSS except those that are designed to disperse septic tank effluent.
 - S) A small AOSS using a treatment unit that has general approval is required to be sampled once during the first 180 days of operation and then once every 5 years thereafter.
 - T) A small AOSS using a treatment unit that does not have general approval is required to be sampled once during the first 180 days of operation, with four additional samples to follow within the first two years of operation, and an annual sample thereafter.
 - U) Samples for small AOSS must be analyzed for BOD and, if disinfection is required, fecal coliform organisms. Small AOSS using chlorine as a disinfectant may sample for total residual chlorine instead of fecal coliform organisms.
 - V) Sampling and monitoring requirements for large AOSS.
 - W) Recommended Field Measurements, Sampling, and Observations for all AOSS

8) Operator responsibilities that include:

- A) Filing a report with VDH for each required visit or when there is a reportable incident.
- B) A requirement that the operator accomplish the various responsibilities and assessments required by the emergency regulations using visual and other observations, laboratory and field tests he deems appropriate and as required by the emergency regulations.
- C) Keep a log for each AOSS for which he is responsible.
- D) Notify VDH when his relationship with an owner terminates.

9) A requirement that any person who pumps or otherwise removes sludge or solids from any septic tank or treatment unit of an AOSS must file a report with VDH.

10) Owner responsibilities that include:

- A) Maintaining a relationship with an operator.
- B) Have the AOSS operated and maintained by an operator.
- C) Have the AOSS visited by an operator at the frequencies and times required by the emergency regulations.
- D) Have an operator collect all required samples.
- E) Keep a copy of the log provided by the operator and the Operation and Maintenance Manual (O&M Manual) and make a reasonable effort to transfer both to a new property owner.
- F) Comply with the onsite sewage system requirements contained in local ordinances adopted pursuant to the Chesapeake Bay Preservation Act (§10.1-2100 et. seq. of the Code) and the Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 10-20-10 et. seq.) when an AOSS is located within a Chesapeake Bay Preservation Area.

11) AOSS with flows less than or equal to 1,000 gpd require one operator visit within the first six months after the operation permit is issued, and an annual visit thereafter. AOSS with flows that exceed 1,000 gpd require more frequent operator visits and staffing.

12) Each AOSS must have an O&M manual prepared by the designer.

13) Minimum expectations for operator visits include:

- A) Inspecting all components of the AOSS, conducting field measurements, sampling and other observations as required by the emergency regulations or the O&M Manual, or as deemed necessary by the operator to assess the performance of the AOSS and its components.
- B) Perform routine maintenance, make adjustments, and replace worn or dysfunctional components with in-kind parts such that the system can reasonably be expected to return to normal function.
- C) If the AOSS is not functioning as designed or in accordance with the performance requirements of the emergency regulations and, in the operator's professional judgment it cannot be reasonably expected to return to normal function through routine operation and maintenance, report immediately to the owner the remediation efforts necessary to return the AOSS to normal function.

- 14) The emergency regulations establish the minimum reporting requirements whenever an operator is required to file a report. Which include:
- A) The name and license number of the operator, the date and time of the report, and the purpose of the visit.
 - B) A summary statement stating whether the AOSS is functioning as designed, whether the operator believes that routine maintenance performed will return the AOSS to normal function, or whether additional actions are required to return the AOSS to normal function.
 - C) A report of maintenance performed, field measurements, observations and sampling, and the name of the laboratory that will analyze samples.
 - D) Providing a copy of the report to VDH and the owner.
- 15) Horizontal setbacks for AOSS designs under § 32.1-163.6 of the Code which are necessary to protect public health and the environment and which cannot be reduced by the engineer designing an AOSS under § 32.1-163.6 of the Code.

The following is a change from the existing regulations (SHDR):

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change and rationale
12VAC5-950-Table 5.4	12VAC5-613-40	Table 5.4 contains prescriptive sizing criteria for soil absorption areas	This change applies only to AOSS designed to disperse TL-2 and TL-3 effluent. These systems will be sized in accordance with performance requirements established in the emergency regulations. Alternative systems that disperse septic tank effluent will continue to be sized in accordance with Table 5.4 of the SHDR. Because of the reduced organic loading rates and other benefits, AOSS that treat wastewater to a higher degree than septic tank effluent before dispersal to a soil treatment area can utilize higher hydraulic loading rates than systems utilizing septic tank effluent.

Alternatives

Please describe all viable alternatives to the proposed regulatory action that have been or will be considered to meet the essential purpose of the action. Also describe the process by which the agency has considered or will consider, other alternatives for achieving the need in the most cost-effective manner.

In developing the emergency regulations, the agency sought stakeholder input through an ad hoc advisory group. Many of the provisions of the emergency regulations are based on the recommendations

of that group. Where the agency has deviated from those recommendations, it believes the deviations are necessary to accomplish the purpose of this action as set forth in the enactment legislation and related statutes. The agency believes the emergency regulations represent the minimum requirements necessary to comply with its legislative mandates.

Public participation

Please indicate the agency is seeking comments on the intended regulatory action, to include ideas to assist the agency in the development of the proposal and the costs and benefits of the alternatives stated in this notice or other alternatives. Also, indicate whether a public meeting is to be held to receive comments on this notice.

VDH is seeking comments on the intended regulatory action, including but not limited to 1) ideas to assist in the development of a proposal, 2) the costs and benefits of the alternatives stated in this background document or other alternatives and 3) potential impacts of the regulation. The agency/board is also seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the Code. Information may include 1) projected reporting, recordkeeping and other administrative costs, 2) probable effect of the regulation on affected small businesses, and 3) description of less intrusive or costly alternative methods of achieving the purpose of the regulation.

Anyone wishing to submit written comments for the public comment file may do so by mail, email or fax to Allen L. Knapp, Virginia Department of Health, 109 Governor Street, Fifth Floor, Richmond, Virginia, 23219, (804) 864-7458 (phone), (804) 864-7476 (fax), or allen.knapp@vdh.virginia.gov. Written comments must include the name and address of the commenter. In order to be considered, comments must be received by the last day of the public comment period.

A public meeting will not be held pursuant to an authorization to proceed without holding a public meeting.

Participatory approach

Please indicate the extent to which an ad hoc advisory group will be used in the development of the proposed regulation. Indicate that 1) the agency is not using the participatory approach in the development of the proposal because the agency has authorized proceeding without using the participatory approach; 2) the agency is using the participatory approach in the development of the proposal; or 3) the agency is inviting comment on whether to use the participatory approach to assist the agency in the development of a proposal.

As noted above, the agency convened an ad hoc advisory group and utilized a participatory approach in the development of the emergency regulations. In addition, VDH held a 30-day public comment period as required by the enactment legislation (Acts of Assembly, 2009, Ch. 0220). The agency's standing Sewage Handling and Disposal Advisory Committee also provided input for the emergency regulations. The agency made a number of changes to the emergency regulations based on the public comments it received. At this time VDH does not intend to use the participatory approach in the development of the proposal. VDH will, however, continue to work with its standing Advisory Committee in the development of the proposal.

Family impact

Assess the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

The proposed regulatory action is not expected to significantly impact families or family stability. The agency received a number of comments during the comment period for the emergency regulations to the effect that the operator requirements (without an option for a homeowner to substitute for a licensed operator) as well as the laboratory sampling requirements for small AOSS will be burdensome on families and homeowners. The operator licensing requirements are contained in Title 54.1 of the Code and VDH does not have discretion to change them. The agency made changes to the emergency regulations in response to the public comments that will reduce the costs of sampling for small AOSS that serve individual homes. VDH believes the cost of laboratory samples will be less than \$100 for each event, which typically occurs at five-year intervals.