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## Notice of Intended Regulatory Action (NOIRA) Agency Background Document

<b>Agency name</b>	Virginia Department of Health
<b>Virginia Administrative Code (VAC) citation(s)</b>	12VAC5-613
<b>Regulation title(s)</b>	Regulations for Alternative Onsite Sewage Systems
<b>Action title</b>	Amend Regulations Following Periodic Review
<b>Date this document prepared</b>	March 14, 2019

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1 VAC 7-10), and the *Virginia Register Form, Style, and Procedure Manual for Publication of Virginia Regulations*.

### Brief Summary

*Please provide a brief summary (preferably no more than 2 or 3 paragraphs) of the subject matter, intent, and goals of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation).*

The Regulations for Alternative Onsite Sewage Systems (AOSS Regulations) (12VAC5-613) became effective December 7, 2011. As required by Executive Order 14 amended (2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, VDH must conduct a periodic review of the regulations every four years. The purpose of the periodic review is to determine whether the regulations should be continued without change or be amended or repealed in part. VDH initiated the comment period for this Periodic Review on January 25, 2016, and ended the comment period on February 25, 2016. VDH received 34 comments during the period noting areas of potential improvement. Additionally, legislation introduced during the 2018 General Assembly Session highlighted further areas for improvement. Based on this feedback, the intended regulatory action would propose to amend the following areas of the AOSS Regulations:

1. 12VAC5-613-10
2. 12VAC5-613-30
3. 12VAC5-613-40
4. 12VAC5-613-50
5. 12VAC5-613-60
6. 12VAC5-613-70
7. 12VAC5-613-80
8. 12VAC5-613-90
9. 12VAC5-613-100
10. 12VAC5-613-120
11. 12VAC5-613-150
12. 12VAC6-613-160
13. 12VAC5-613-170
14. 12VAC5-613-180
15. 12VAC5-613-190
16. 12VAC5-613-200
17. 12VAC5-613-210

## Acronyms and Definitions

*Please define all acronyms or technical definitions used in the Agency Background Document. .*

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"Alternative onsite sewage system," "AOSS," or "alternative onsite system" means a treatment works that is not a conventional onsite sewage system and does not result in a point source discharge.

"Biochemical oxygen demand, five-day" or "BOD<sub>5</sub>" 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; BOD<sub>5</sub> is expressed in milligrams per liter (mg/l).

"Board" means the State Board of Health.

"Carbonaceous biochemical oxygen demand, five-day" or "CBOD<sub>5</sub>" 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 where nitrogenous oxygen demand is inhibited. CBOD<sub>5</sub> is expressed in milligrams per liter (mg/l).

"Chesapeake Bay Watershed" means the following Virginia river basins: Potomac River Basin (see [9VAC25-260-390](#) and [9VAC25-260-400](#)), James River Basin (see [9VAC25-260-410](#), [9VAC25-260-415](#), [9VAC25-260-420](#), and [9VAC25-260-430](#)), Rappahannock River Basin (see [9VAC25-260-440](#)), Chesapeake Bay and small coastal basins (see [9VAC25-260-520](#), Section 2 through Section 3g), and the York River Basin (see [9VAC25-260-530](#)).

"Conventional onsite sewage system" means a treatment works consisting of one or more septic tanks with gravity, pumped, or siphoned conveyance to a gravity distributed subsurface drainfield.

"Department" means the Virginia Department of Health.

"Direct dispersal of effluent to ground water" means less than six inches of vertical separation between ground water and the point of effluent application or the bottom of an effluent-dispersal trench or other excavation. Other excavation excludes the following: minor tillage of the soil surface without soil removal; replacement of fill material with better quality fill material as determined by the department to improve the ability of the site to treat wastewater; house foundations; tank excavations; force main and header line excavations; and soil disturbances, including preexisting drainfields installed prior to July 17, 2017, that are not designed for surface or ground water drainage, and do not create a direct conduit to ground water.

"Disinfection" means a process used to destroy or inactivate pathogenic microorganisms in wastewater to render them non-infectious.

"Effluent" means sewage that has undergone treatment.

"EPA" means Environmental Protection Agency.

"General approval" means that a treatment unit has been evaluated in accordance with the requirements of this chapter and [12VAC5-610](#) and approved for TL-2 or TL-3 in accordance with this chapter.

"GPD/sf" means gallons per day per square foot.

"Ground water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir, or other body of surface water wholly or partially within the boundaries of this Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates, or otherwise occurs. Ground water includes a seasonal or perched water table.

"Large AOSS" means an AOSS that serves more than three attached or detached single-family residences with a combined average daily sewage flow greater than 1,000 GPD or a structure with an average daily sewage flow in excess of 1,000 GPD.

"Limiting feature" means a feature of the soil that limits or intercepts the vertical movement of water, including seasonal, perched or permanent water table, pans, soil restrictions, and pervious or impervious bedrock.

"Maintenance" means, unless otherwise provided in local ordinance, (i) performing adjustments to equipment and controls or (ii) in-kind replacement of normal wear and tear parts that do not require a construction permit for adjustment or replacement of the component such as light bulbs, fuses, filters, pumps, motors, sewer lines, conveyance lines, distribution boxes, header lines, or other like components. "Maintenance" includes pumping the tanks or cleaning the building sewer on a periodic basis. Notwithstanding any local ordinance, "maintenance" does not include replacement of tanks, drainfield piping, subsurface drainfields or work requiring a

construction permit and an installer. Unless otherwise prohibited by local ordinance, a conventional onsite sewage system installer or an alternative onsite sewage system installer may perform maintenance work limited to in-kind replacement of light bulbs, fuses, filters pumps, sewer lines, conveyance lines, distribution boxes, and header lines.

"Operate" means the act of making a decision on one's own volition to (i) place into or take out of service a unit process or unit processes or (ii) make or cause adjustments in the operation of a unit process at a treatment works.

"Operation" means the biological, chemical, and mechanical processes of transforming sewage or wastewater to compounds or elements and water that no longer possess an adverse environmental or health impact.

"Operator" means any individual employed or contracted by any owner who is licensed or certified under Chapter 23 (§ [54.1-2300](#) et seq.) of Title 54.1 of the Code of Virginia as being qualified to operate, monitor and maintain an alternative onsite sewage system.

"Owner" means the Commonwealth or any of its political subdivisions, including sanitary districts, sanitation district commissions and authorities, or any individual, any group of individuals acting individually or as a group, or any public or private institution, corporation, company, partnership, firm, or association that owns or proposes to own a sewerage system or treatment works.

"Saturated hydraulic conductivity" means a quantitative measure of a saturated soil's capacity to transmit water when subjected to a hydraulic gradient.

"Sewage Handling and Disposal Regulations" means [12VAC5-610](#) or its successor.

"Small 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.

"Standard disinfection" means a disinfection process that results in a fecal coliform concentration of less than or equal to 200 colonies/100 ml. Chlorine disinfection requires a minimum TRC concentration at the end of a 30 minute contact time of 1.0 mg/l. Influent TSS to the disinfection unit shall average 30 mg/l or less.

"Total nitrogen" or "TN" means the measure of the complete nitrogen content of wastewater including all organic, inorganic, and oxidized forms expressed in mg/l as nitrogen.

"Total residual chlorine" or "TRC" means a measurement of the combined available chlorine and the free available chlorine available in a sample after a specified contact time.

"Total suspended solids" or "TSS" means a measure of the mass of all suspended solids in a sample typically measured in milligrams per liter (mg/l).

"Treatment level 2 effluent" or "TL-2 effluent" means secondary effluent as defined in [12VAC5-610-120](#) that has been treated to produce BOD<sub>5</sub> and TSS concentrations equal to or less than 30 mg/l each.

"Treatment level 3 effluent" or "TL-3 effluent" means effluent that has been treated to produce BOD<sub>5</sub> and TSS concentrations equal to or less than 10 mg/l each.

"Treatment unit" or "treatment system" means a method, technique, equipment, or process other than a septic tank or septic tanks used to treat sewage to produce effluent of a specified quality before the effluent is dispersed to a soil treatment area.

"Vertical separation" means the vertical distance between the point of effluent application to the soil or the bottom of a trench or other excavation and a limiting feature of the soil treatment area such as seasonal high ground water, bedrock, or other restriction.

### Mandate and Impetus

*Please identify the mandate for this regulatory change, and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, petition for rulemaking, periodic review, board decision, etc.). For purposes of executive branch review, "mandate" has the same meaning as defined in Executive Order 14 (as amended, July 16, 2018), "a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part."*

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This action is required for the periodic review of the regulations as mandated by Executive Order 14 (2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia (the Code).

### Legal Basis

*Please identify (1) the agency or other promulgating entity, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency or promulgating entity's overall regulatory authority.*

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Section 32.1-12 of the Code authorizes the 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. Sections 32.1-164 A. and B. of the Code 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. Section 32.1-20 of the Code vests the Commissioner with all of the authority of the Board when not in session, and Section 32.1-16 of the Code provides that the Virginia Department of Health shall be under the supervision and management of the Commissioner of Health.

### Purpose

*Please describe the specific reasons why the agency has determined that this regulation is essential to protect the health, safety, or welfare of citizens. In addition, please explain any potential issues that may need to be addressed as the regulation is developed.*

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The proposed regulatory action is essential to protect the health and safety of citizens because it defines standards for alternative onsite sewage systems necessary for the protection of groundwater resources.

The Department is seeking to amend sections of the AOSS Regulations (12VAC5-613) following a periodic review of the regulations conducted pursuant to Virginia Code § 2.2-4017. The AOSS Regulations became effective December 7, 2011. Originally, onsite systems were regulated through the Sewage Handling and Disposal Regulations, 12VAC 5-610. The Board of Health adopted the AOSS Regulations to address the needs of recognizing higher levels of wastewater treatment. By producing higher quality wastewater, onsite sewage system service providers could install AOSS with a reduced vertical separation to limiting features with increased loading rates to soil dispersal. The AOSS Regulations also introduced operation and maintenance requirements along with limits for nitrogen output. Additionally, VDH added special considerations for designs by professional engineers.

The Department began the comment period for these regulations on January 25, 2016, and ended the initial comment period on February 25, 2016, receiving 34 comments. The comments received focused generally on three main areas of amendment: first, the general approval process for manufacturers of AOSS; second, the performance requirements of the AOSS; and last, the sampling requirements for owners. The Department formed three workgroups comprised of stakeholders to discuss the three main areas of proposed amendment. The workgroups met several times from 2016 to 2017. Based upon these meetings, the Department drafted amendments for discussion. In 2018, the Department held meetings at various locations throughout the state gathering comment from stakeholders and the public on the current regulations and the draft proposed amendments.

## Substance

*Please briefly identify and explain the new substantive provisions that are being considered, the substantive changes to existing sections that are being considered, or both.*

The Department proposes to review the entire regulation for housekeeping changes such as correcting references to other regulations, incorporating agency guidance policies, and consistency in definitions. The Department proposes to modify the AOSS Regulations to address comments received during the public comment period, the stakeholder process, and the public meeting process.

The Department proposes to consider the following:

- Add definitions for pads, peak flow, permeability limiting feature, residential wastewater, soil-like fill material and treatment works.
- Modify the definitions for small and large alternative onsite sewage systems and standard disinfection to add in peak flow concept.
- Clarify the level of detail required for soil and site evaluations.
- Clarify when and how saturated hydraulic conductivity tests are to be conducted.

- Clarify the recordation requirements.
- Modify the general approval procedures in 12VAC5-613-70 to allow for out of state data to be considered, allow CBOD<sub>5</sub> as well as BOD<sub>5</sub> data, and provide a delisting procedure.
- Modify 12VAC5-613-80 to:
  - Provide more detail to Table 1 (soil loading rates)
  - Clarify and adjust Table 2 (vertical separation to limiting features) to provide for a minimum of 6 inches of native soil vertical separation to a limiting feature other than a seasonal high water table.
  - Consider adding design criteria for pads and loading rates.
  - Define 'soil-like' or otherwise modify the discussion of fill material to clarify the intent.
- Modify 12VAC5-613-90 to:
  - Define when groundwater monitoring is required and minimum construction and sampling requirements.
  - Modify the d Bay nutrient standard to reflect current guidance from EPA to include raising the flow tier for a 20 mg/l total nitrogen standard to 20,000 gallons per day (gpd) instead of the current 10,000 gpd and eliminating nitrogen reduction methods that cannot be quantified or reported to EPA.
  - Delete 12VAC5-613-90D.4 which set specific nutrient limits for direct dispersal to groundwater systems in the Chesapeake Bay watershed. With this eliminated, all direct dispersal systems statewide would be held to an applied effluent limit of 5 mg/l total nitrogen.
- Modify 12VAC5-613-100 to:
  - Delay the initial sample collection date for a minimum of 45 days after startup to allow for biological acclimation.
  - Set enforcement triggers for effluent quality.
  - Clarify the point of sampling for small systems.
- Clarify language in 12VAC5-613-120 to address concerns that operators may only be 'inspecting' systems as opposed to conducting operation and maintenance activities.
- Modifying Tables 3 and 4 to flow tiers of >1,000 gpd to 5,000 gpd and then >5,000 gpd to 40,000 gpd.
- Clarify 12VAC5-613-200 to address confusion regarding horizontal setbacks to neighboring wells and also non-potable sources of water.
- Delete 12VAC5-613-210 which allowed professional engineers to deviate from the bulk of the performance standards in the regulation and provided an alternative compliance monitoring method.
- Address general concerns over clarity of the relationship between 12VAC5-610 and 12VAC5-613, especially for designs under Virginia Code § 32.1-163.5 versus § 32.1-163.6.
- Develop other amendments based on feedback and input provided by Technical Advisory Committees and by the general public while the proposed amendments are being developed. Further, the Department will examine other amendments, authorized by the *Code*, which are consistent with the Department's current policies and procedures and which will better enable the Board to carry out its responsibilities for the safe and sanitary treatment and disposal of sewage so as to protect public health and the environment.

## Alternatives

*Please describe any viable alternatives to the regulatory change that were considered, and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the regulatory change. Also, include discussion of less intrusive or less costly alternatives for small businesses, as defined in § 2.2-4007.1 of the Code of Virginia, of achieving the purpose of the regulatory change.*

The agency can choose to not amend the regulations; however, from feedback received by stakeholders, it appears amendment is necessary. Beginning in January 2016, the agency requested comments from stakeholders for proposed amendments. The agency has met with many stakeholders in both small groups and regional meetings, and worked with stakeholders in drafting proposed amendments. The small stakeholder groups assisted the agency in drafting the proposed amendments and considered viable alternatives to proposed changes and/or not amending the regulations. The groups appeared to agree that amendment was needed to the regulations. The agency continues to solicit feedback on drafting the least burdensome and yet, still protective of public health, proposed amendments to the regulations.

## Periodic Review and Small Business Impact Review Announcement

*If you wish to use this regulatory action to conduct, and this NOIRA to announce, a periodic review (pursuant to § 2.2-4017 of the Code of Virginia and Executive Order 14 (as amended, July 16, 2018)), and a small business impact review (§ 2.2-4007.1 of the Code of Virginia) of this regulation, keep the following text. Modify as necessary for your agency. Otherwise, delete the paragraph below and insert "This NOIRA is not being used to announce a periodic review or a small business impact review."*

This NOIRA is not being used to announce a periodic review or a small business impact review.

## Public Participation

*Please indicate how the public should contact the agency to submit comments on this regulation, including ideas to assist the agency in the development of the regulation and the costs and benefits of the alternatives stated in this notice or other alternatives.*

*Also, indicate whether a public hearing is to be held to receive comments. Please include one of the following choices: 1) a panel will be appointed and the agency's contact if you're interested in serving on the panel is \_\_\_\_\_; 2) a panel will not be used; or 3) public comment is invited as to whether to use a panel to assist in the development of this regulation.*

The Virginia Department of Health is seeking comments on this regulation, including but not limited to: ideas to be considered in the development of this regulation, the costs and benefits of the alternatives stated in this background document or other alternatives, and the potential impacts of the regulation. Also, the agency is also seeking information on impacts on small businesses as defined in § 2.2-4007.1 of the *Code of Virginia*. Information may include: 1)



projected reporting, recordkeeping, and other administrative costs; 2) the probable effect of the regulation on affected small businesses; and 3) the description of less intrusive or costly alternatives for achieving the purpose of the regulation.

Anyone wishing to submit written comments for the public comment file may do so through the Public Comment Forums feature of the Virginia Regulatory Town Hall web site at <https://www.townhall.virginia.gov>. Written comments must include the name and address of the commenter. Comments may also be submitted by mail, email or fax ((804) 864-7475)) to Marcia Degen, Environmental Technical Services Administrator, [Marcia.degen@vdh.virginia.gov](mailto:Marcia.degen@vdh.virginia.gov); or Karri Atwood, Legal Affairs Coordinator, [karri.atwood@vdh.virginia.gov](mailto:karri.atwood@vdh.virginia.gov); 109 Governor Street, Richmond, Virginia 23219.

In order to be considered, comments must be received by 11:59 pm on the last day of the public comment period.

A public hearing will not be held following the publication of the proposed stage of this regulatory action.