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Fast-Track Regulation Agency Background Document

Agency name	Virginia Department of Health
Virginia Administrative Code (VAC) citation(s)	12VAC5-613
Regulation title(s)	Regulations for Alternative Onsite Sewage Systems
Action title	Performance Requirements for Repairs and Voluntary Upgrades of Systems that Directly Disperse Effluent to Groundwater
Date this document prepared	April 28, 2017

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 17 (2014) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

Please provide a brief summary (preferably no more than 2 or 3 paragraphs) of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes. If applicable, generally describe the existing regulation.

The Regulations for Alternative Onsite Sewage Systems (12VAC5-613, AOSS Regulations) establish performance and operation and maintenance requirements for alternative onsite sewage systems. The fast track amendments will change the definition of “direct dispersal of effluent to groundwater,” also known as “direct dispersal,” (12VAC5-613-10), will add a new section

(12VAC5-613-90.E) to address performance requirements for repairs and voluntary upgrades of systems that already disperse effluent to groundwater, and include a new section (12 VAC5-613-90.F) to specify any system designed to meet the requirements of 12 VAC5-613-90 and constructed after December 7, 2013, is not eligible for the performance and sampling requirements described in 12VAC5-613-90.E.

The fast track amendments are narrowly focused to address a very specific situation when the owner has an older installed sewage system that already disperses effluent into groundwater with an average daily sewage flow of less than 1,000 gallons per day, and the owner wants to repair or upgrade that older, previously installed sewage system. The fast track amendments do not affect requirements for undeveloped properties or new construction and development; however, the change in definition would not consider certain site grading work as initiating requirements for direct dispersal (e.g., pipe and tank excavations, minor tillage of the soil surface without soil removal, or replacement of fill material). The fast track amendments will improve the AOSS Regulations by providing a clearer definition of direct dispersal, identifying appropriate exclusions from the definition, and by specifying more reasonable treatment and performance requirements for direct dispersal when an owner needs to repair or wants to upgrade an older sewage system that already disperses effluent into the water table. Newer alternative onsite sewage systems that comply with the requirements of the AOSS Regulations after December 7, 2013, will not be eligible to meet the performance requirements of the proposed fast track amendments if repaired or upgraded.

The fast track amendments will allow owners with older sewage systems to meet less stringent, and more appropriate, performance and monitoring requirements. The fast track amendments will reduce the number of owners who repair or upgrade their existing septic systems with waivers to treatment as allowed by Va. Code § 32.1-164.1:1. Even though the fast track amendments offer different performance requirements than required for new construction and undeveloped property, the amendments will be more protective of public health because owners with older, failing, or low-performing septic systems will be more likely to comply with the new performance requirements. Additionally, newer sewage systems designed to meet the performance requirements of the AOSS Regulations are not eligible for the proposed fast-track amendment, as they are exempted by proposed subsection (F) of the amendment, and will have to continue to meet the higher performance requirements of new construction should they choose to repair or upgrade in the future.

Currently, many owners waive additional treatment and pressure dosing required by the AOSS Regulations pursuant to Va. Code § 32.1-164.1:1. Many owners report direct dispersal requirements have created an economic hardship when homeowners want to repair or upgrade older septic systems with newer technology. Since the AOSS Regulations became effective, the Commissioner has granted more than 30 variances to property owners who could not afford to comply with direct dispersal requirements for repairs and voluntary upgrades of older septic systems. Also, over 750 owners to date have taken a waiver pursuant to Va. Code § 32.1-164.1:1 from additional treatment and pressure dosing. The older septic systems already discharge partially treated effluent to the groundwater and the current AOSS Regulations inadvertently discourage more complete upgrades and repairs as the requirements for direct dispersal are cost prohibitive when applied to previously developed properties.

Acronyms and Definitions

Please define all acronyms used in the Agency Background Document. Also, please define any technical terms that are used in the document that are not also defined in the “Definition” section of the regulations.

“AOSS” means Alternative Onsite Sewage System
“BMP” means Best Management Practice
“Board” means Board of Health
“BOD₅” means Biochemical Oxygen Demand 5-day
“GPD” means gallons per day
“TN” means Total Nitrogen
“TP” means Total Phosphorous
“TMDL” means Total Maximum Daily Load
“TSS” means Total Suspended Solids

Legal basis

Please identify the state and/or federal legal authority to promulgate this proposed regulation, including:

1) the most relevant citations to the Code of Virginia or General Assembly chapter number(s), if applicable; and 2) promulgating entity, i.e., agency, board, or person. Your citation should include a specific provision authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency/board/person’s overall regulatory authority.

Va. Code § 32.1-12 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. Va. Code §§ 32.1-164 A. and B. authorize the Board to adopt regulations governing the collection, conveyance, transportation, treatment, and disposal of sewage, including sewerage systems and treatment works as they affect public health and welfare.

Purpose

Please explain the need for the new or amended regulation. Describe the rationale or justification of the proposed regulatory action. Describe the specific reasons the regulation is

essential to protect the health, safety or welfare of citizens. Discuss the goals of the proposal and the problems the proposal is intended to solve.

Currently, there is no single technology that can comply with all of the performance requirements for direct dispersal. Different technologies must be combined. However, the proposed fast-track amendment would allow the possibility to use a single treatment technology to meet the performance requirements, thereby reducing costs while still being protective of public health. When the final regulations were first adopted in 2011, the general sentiment at that time was to require best available technology and that costs would reduce over time. However, costs have not substantially decreased; and to date, no property owner has submitted an application to comply with the requirements for direct dispersal. Private industry is trying to meet the current standard; however, there is a need to allow for upgrades and repairs in the interim. The change in performance standards improves public health protection and reverts to the regulatory requirements that were in effect under the emergency AOSS Regulations from 2009 until December 7, 2011, with the addition of TN reduction.

In regulating direct dispersal of treated effluent to groundwater, 12VAC5-613-90.D.4 establishes a discharge limit of 3 mg/l TN and 0.3 mg/l TP in the Chesapeake Bay Watershed, which is the limit of technologies available in the marketplace. These requirements took effect on December 7, 2013. However, the limit of technology is not economically possible for many homeowners with an older septic system that already disperses septic tank effluent directly into groundwater. By some estimates, compliance with current requirements can cost nearly \$40,000 for many owners with previously developed properties. Operation and maintenance costs can exceed \$2,000 per year. In contrast, the cost to comply with the fast track amendments is estimated to be at least 50% less. Any system that fully complies with the more stringent requirements of the Regulations (on or after December 7, 2013) would be required to continue adhering to those requirements if repaired or upgraded, unless another solution that fully complied became available.

Many existing systems do not meet site and soil criteria established under current regulations. When the existing system fails the owner is faced with the cost of installing additional treatment or pressure dosing to repair the system. In some cases, the cost of the new treatment or pressure dosing is a barrier to repair a failing onsite sewage system. In 2004, the General Assembly of Virginia approved legislation to address this issue by amending Va. Code § 32.1-164.1:1 to allow property owners to request a waiver from additional treatment or pressure dosing requirements beyond the level provided by the existing system when repairing a failing onsite sewage system. A waiver granted under Va. Code § 32.1-164.1:1 to repair a failing system is not transferable (unless specifically exempt) and expires upon property transfer.

In 2011, the General Assembly of Virginia approved legislation, which again amended Va. Code § 32.1-164.1:1 and added Va. Code § 32.1-164.1:3 to allow for the voluntary upgrade of onsite sewage systems and alternative discharging sewage systems. As amended, a property owner who voluntarily upgrades his onsite sewage system can request a waiver from additional treatment or pressure dosing requirements, similar to a waiver granted to repair failing onsite

sewage systems. However, unlike waivers granted to repair failing systems, waivers granted for voluntary upgrades do not become null and void upon sale of the property.

Waivers pursuant to Va. Code § 32.1-164.1:1 allow homeowners located anywhere within the Commonwealth, including within the Chesapeake Bay Watershed, to waive additional treatment and continue to discharge untreated septic effluent into groundwater. Waivers do not apply to operation and maintenance (O&M) requirements. The fast-track amendments change the performance requirements and O&M schedule for direct dispersal of a voluntary upgrade or repair; it does not change the statute, and the law allows the property owner to receive a waiver.

Section 12VAC5-613-90.C sets stringent performance and operational requirements for all sewage systems that result in direct dispersal. These stringent requirements include: 1) quarterly sampling and remote monitoring; 2) BOD₅ and TSS equal to or less than 5 mg/l; 3) fecal coliform concentration less than or equal to 2.2 col/100 ml with no sample exceeding 14 col/100 ml; 4) Total Nitrogen less than 5 mg/l; high level disinfection; average turbidity of less than or equal to 2 Nephelometric turbidity units prior to disinfection; 5) a renewable operating permit; and 6) a hydrogeologic analysis of the receiving groundwater. These requirements, while appropriate for new construction and undeveloped properties, present a significant financial barrier for a homeowner wanting to repair or upgrade an older septic system that already disperses effluent to ground water. In many cases, the owner cannot avoid having a repair or upgrade that does not directly disperse effluent to groundwater.

Since promulgation of the AOSS Regulations on December 7, 2011, and the effective date of December 7, 2013, for 12 VAC5-613-90, the Commissioner of Health has granted more than 30 variances to owners claiming financial hardship for repairs and voluntary upgrades, and over 750 owners have waived additional requirements pursuant to Va. Code § 32.1-164.1:1. The fast track amendments are essential to protect the health, safety and welfare of citizens in that they will provide a more financially attainable level of treatment for previously developed properties, still provide a high level of public health protection, and encourage owners to not waive regulatory requirements. The fast track amendments will also eliminate the need for an individualized variance for most situations.

Rationale for using fast-track process

Please explain the rationale for using the fast-track process in promulgating this regulation. Why do you expect this rulemaking to be noncontroversial?

The fast-track amendments will allow more owners to affordably repair or upgrade old sewage systems that already disperse effluent to ground water while upholding strict requirements for new systems seeking to disperse effluent to groundwater. This action is not considered to be controversial as it reduces a financial burden to homeowners and small business owners while improving public health and the environment.

For the fast-track amendments, Virginia Department of Health staff consulted with the Sewage Handling and Disposal Advisory Committee (advisory committee), which comprises over 15 stakeholder groups, including homebuilders, realtors, well drillers, septic contractors, professional engineers, operators, onsite soil evaluators, environmental groups, and regulatory interests. On June 3, 2015, and September 16, 2016, the advisory committee discussed the fast-track amendments to the AOSS Regulations to address voluntary upgrades and repairs that disperse effluent directly to groundwater. At the September 16, 2016, meeting, the advisory committee recommended the fast-track amendments be approved for the Board of Health’s consideration. Only one stakeholder, Mr. Joel Pinnix, representing the American Council of Engineering Companies of Virginia, opposed the fast track amendment because it did not include undeveloped property or new construction activities, only repairs and upgrades. The fast track amendments do not include new construction activities because that idea is considered controversial, which requires vetting through the routine and normal regulatory adoption process. During executive branch review of the fast track amendments in 2017, staff added 12VAC5-613-90.F to ensure that alternative onsite sewage systems that already comply with direct dispersal requirements will continue to do so when repaired or voluntarily upgraded.

Substance

Please briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both. A more detailed discussion is provided in the “Detail of changes” section below.

The amendment to the definition of direct dispersal of effluent to ground water at 12VAC5-613-10 will clarify that excavation excludes a pre-existing soil disturbance not designed to create a direct conduit or preferential path to groundwater. The amendment to 12VAC5-613-90 will add subsection (E) to require a repaired or voluntarily upgraded direct dispersal system to meet 50% reduction of TN as compared to a conventional gravity drainfield system, TL-3 treatment, and standard disinfection in accordance with 12VAC5-613-80 (13), Table 2, for systems with less than twelve inches of vertical separation to groundwater. Subsection (F) will clarify that any system designed to meet the performance requirements of 12 VAC5-613-90.D and installed on or after December 7, 2013 (which is the date on which more stringent nitrogen reduction requirements took effect), will have to continue to meet the stringent performance requirements of 12VAC5-613-90.D and will be ineligible for the reduced requirements of 12 VAC5-613-90.E unless another design would otherwise fully comply.

Issues

Please identify the issues associated with the proposed regulatory action, including: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and

disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, please indicate.

The primary advantages to the public are increased public health protection and a reduced financial burden to repair or upgrade sewage systems when requirements for direct dispersal apply. The public will also receive faster permitting because a variance or waiver to the regulation would no longer be necessary in most cases. The advantage to the agency is it will reduce staff time processing waivers and individual variances to the regulations; and, in most cases, the regulatory amendments will lead to better defined expectations for repairing and upgrading sewage systems. Currently, the Commissioner has granted over 30 variances to allow for the repair or voluntary upgrade of existing direct dispersal systems. The proposed amendments, while having less stringent requirements for treatment and monitoring of older systems seeking repair or upgrade, are still protective of public health and are within the requirements of the EPA’s model program for the TMDL. The fast track amendments will ease the financial burden on the homeowner or small business owner while streamlining the agency’s processing of applications. There are no disadvantages to the public or the Commonwealth.

Requirements more restrictive than federal

Please identify and describe any requirement of the proposal which is more restrictive than applicable federal requirements. Include a rationale for the need for the more restrictive requirements. If there are no applicable federal requirements or no requirements that exceed applicable federal requirements, include a statement to that effect.

The proposed changes to the regulations are not more restrictive than any federal requirement. There is no federal requirement with respect to onsite sewage systems.

Localities particularly affected

Please identify any locality particularly affected by the proposed regulation. Locality particularly affected means any locality which bears any identified disproportionate material impact which would not be experienced by other localities.

The localities near the Chesapeake Bay and within the coastal plain physiographic province of the Commonwealth are most likely to take advantage of the fast track amendments because these regions are more likely to have shallow groundwater and sewage systems dispersing effluent close to, or into, the shallow groundwater.

Regulatory flexibility analysis

Pursuant to § 2.2-4007.1B of the Code of Virginia, please describe the agency’s analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) the establishment of less stringent compliance or reporting requirements; 2) the establishment of less stringent schedules or deadlines for compliance or reporting requirements; 3) the consolidation or simplification of compliance or reporting requirements; 4) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.

The amendments would allow existing direct dispersal systems seeking a voluntary upgrade or a repair of a failing system to meet: (1) treatment levels less stringent than for new construction with less frequent reporting requirements; (2) less stringent sampling frequency (yearly instead of quarterly); and (3) less stringent performance standards for treatment (e.g., 10 mg/l or less BOD₅, standard disinfection, 50% TN reduction instead of 5 mg/l or less BOD₅ with high level disinfection, 3 mg/l or less TN, and 0.3 mg/l or less P). These proposed amendments have no negative impact on small businesses.

Economic impact

Please identify the anticipated economic impact of the proposed new regulations or amendments to the existing regulation. When describing a particular economic impact, please specify which new requirement or change in requirement creates the anticipated economic impact.

<p>Projected cost to the state to implement and enforce the proposed regulation, including: a) fund source / fund detail; and b) a delineation of one-time versus on-going expenditures</p>	<p>The amendments will not add cost to the state, but will decrease the cost as staff will not have to individually process variance requests.</p>
<p>Projected cost of the new regulations or changes to existing regulations on localities.</p>	<p>The amendments will add no additional cost to localities.</p>
<p>Description of the individuals, businesses, or other entities likely to be affected by the new regulations or changes to existing regulations.</p>	<p>Owners of AOSS systems, especially in the Chesapeake Bay Watershed will be able to more affordably repair and voluntarily upgrade their AOSS systems.</p>
<p>Agency’s best estimate of the number of such entities that will be affected. Please include an</p>	<p>Each year, the Department receives about 2,500 to 3,500 applications for repairs and voluntary upgrades. Of these</p>

<p>estimate of the number of small businesses affected. Small business means a business entity, including its affiliates, that:</p> <ul style="list-style-type: none"> a) is independently owned and operated and; b) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million. 	<p>requests, approximately 1,000 could be associated with direct dispersal. Of these, the Department estimates 1 to 25 could be associated with a small business. Currently, if the owners do not receive a variance to the AOSS Regulations or do not seek a waiver pursuant to Va. Code § 32.1-164.1:1, then the requested upgrade or needed repair is often not completed.</p>
<p>All projected costs of the new regulations or changes to existing regulations for affected individuals, businesses, or other entities. Please be specific and include all costs including:</p> <ul style="list-style-type: none"> a) the projected reporting, recordkeeping, and other administrative costs required for compliance by small businesses; and b) specify any costs related to the development of real estate for commercial or residential purposes that are a consequence of the proposed regulatory changes or new regulations. 	<p>There is no additional reporting requirement or cost for real estate development.</p>
<p>Beneficial impact the regulation is designed to produce.</p>	<p>The amendments will reduce the financial burden on homeowners and small business to repair or voluntarily upgrade an existing onsite sewage system.</p>

Alternatives

Please describe any viable alternatives to the proposal considered and the rationale used by the agency to select the least burdensome or intrusive alternative that meets the essential purpose of the action. 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 regulation.

The agency could choose not to amend the regulations; in which case, homeowners or small business owners would need to fully comply with the more stringent regulations for repairs and voluntary upgrades, or request a variance from the AOSS Regulations, or receive a waiver pursuant to Va. Code § 32.1-164.1:1. Currently, there is no single technology that can comply with all of the performance requirements for direct dispersal and the cost associated with repairing or upgrading an older septic system are not financially feasible for many homeowners.

While the cost for direct dispersal requirements is appropriate for new construction, many owners with previously developed property cannot afford to comply with these standards when trying to repair or upgrade an existing older septic system. The number of variance and waiver requests for voluntary upgrades and repairs demonstrates many owners cannot financially comply with the current regulations for direct dispersal. The limit of currently available technology is not always feasible for repairs and voluntary upgrades. The best alternative is to amend the regulation.

Public participation notice

If an objection to the use of the fast-track process is received within the 30-day public comment period from 10 or more persons, any member of the applicable standing committee of either house of the General Assembly or of the Joint Commission on Administrative Rules, the agency shall: 1) file notice of the objections with the Registrar of Regulations for publication in the Virginia Register; and 2) proceed with the normal promulgation process with the initial publication of the fast-track regulation serving as the Notice of Intended Regulatory Action.

Periodic review and small business impact review report of findings

If this fast-track is the result of a periodic review/small business impact review, use this form to report the agency's findings. Please (1) summarize all comments received during the public comment period following the publication of the Notice of Periodic Review and (2) indicate whether the regulation meets the criteria set out in Executive Order 17 (2014), e.g., is necessary for the protection of public health, safety, and welfare, and is clearly written and easily understandable. In addition, as required by 2.2-4007.1 E and F, please include a discussion of the agency's consideration of: (1) the continued need for the regulation; (2) the nature of complaints or comments received concerning the regulation from the public; (3) the complexity of the regulation; (4) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (5) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation.

(1) This fast-track is not the specific result of a periodic review or small business impact review. This regulatory initiative specifically results from an internal assessment that took place before the periodic review. However, a periodic review of the regulation concluded on February 25, 2016, and the Board received 34 comments asking for various changes to the regulations. The Virginia Department of Health has initiated a separate stakeholder process to address all of the comments received during the periodic review. Two commenters during the periodic review asked for a change to the requirements for direct dispersal (see comments from Ms. Janet Swords, dated February 9, 2016, and Mr. Joel Pinnix, dated February 24, 2016). The Board considered these two comments when finalizing this proposal.

Other comments received addressed field testing (12VAC5-613-70), requirements for soil evaluation (12VAC5-613-40.G), general approval and other definitions (12VAC5-613-10), adding additional standards of practice and ethical requirements, and updating or changing performance requirements (12VAC5-613-80).

(2) The AOSS Regulations are necessary to protect public health, safety, and welfare. Additional changes to the regulations are being discussed with stakeholders through a separate regulatory action to improve clarity and understanding of the performance requirements (12VAC5-613-80), field testing (12VAC5-613-70), site characterization (12VAC5-613-40.G), and definitions (12VAC5-613-10).

Discussion of the agency's consideration:

- (1) The regulations are necessary to ensure that AOSS do not adversely impact surface water, groundwater, and public health. The regulations remain necessary to implement Va. Code §§32.1-163.5 and 163.6.
- (2) The concerns raised from the public generally address performance requirements and evaluation for TL-3 general approval.
- (3) The regulation is necessary to implement performance requirements for AOSS. The agency does not believe the regulation is not too complex, but additional edits can improve clarity and understanding.
- (4) Because there are no other federal or state requirements for AOSS, and because the AOSS Regulations supersede the Sewage Handling and Disposal Regulations (12VAC5-610) if any conflict existed, the agency finds the AOSS Regulations do not conflict with other federal or state regulations.
- (5) The AOSS Regulations were promulgated on December 7, 2011, and the Virginia Department of Health has gained considerable experience working with the relatively new regulation. Technology continues to improve, including nascent ideas for treating and dispersing treated effluent.

Family impact

Please assess the impact of this 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 substantive regulatory changes will allow more families to affordably repair or upgrade their failing or low performing older sewage systems. The fast track amendments will have no impact on the authority or rights of parents to educate, nurture, or supervise their children. The amendments will reduce the cost to repair or voluntarily upgrade a sewage system that is subject to direct dispersal requirements, which could encourage self-sufficiency. The amendments will

likely have no impact on marital commitment, but could have a positive impact on disposable family income since repairs and voluntary upgrades for direct dispersal will be less expensive with the amendments.

Detail of changes

*Please list all changes that are being proposed and the consequences of the proposed changes; explain the new requirements and what they mean rather than merely quoting the proposed text of the regulation. If the proposed regulation is a new chapter, describe the intent of the language and the expected impact. Please describe the difference between existing regulation(s) and/or agency practice(s) and what is being proposed in this regulatory action. If the proposed regulation is intended to replace an emergency regulation, please list separately: (1) all differences between the **pre-emergency** regulation and this proposed regulation; and 2) only changes made since the publication of the emergency regulation.*

For changes to existing regulation(s), use this chart:

Current section number	Proposed new section number, if applicable	Current requirement	Proposed change, intent, rationale, and likely impact of proposed requirements
12VAC5-613-10		Direct dispersal of effluent to ground water means less than six inches of vertical separation between the point of effluent application or the bottom of a trench or other excavation and ground water.	Direct dispersal of effluent to ground water means less than six inches of vertical separation between groundwater and the point of effluent application or the bottom of an effluent-dispersal trench or other excavation. Other excavation excludes minor tillage of the soil surface without soil removal; replacement of fill material; house foundations; tank excavations; force main and header line excavations; and pre-existing soil disturbances, including, but not limited to, percolation trenches, utility line excavations, or other excavations not designed for surface or groundwater drainage.

			<p>The proposed change clarifies what direct dispersal means and explains what is specifically excluded from the definition. A repair or voluntary upgrade located over an older sewage system's footprint would no longer be considered direct dispersal. Currently, such designs are considered direct dispersal even though the design improves the existing situation and reduces threats to public health. The broad language of the current regulatory definition could encompass such activities as augering a soil boring, or excavation for a tank, which has never been considered a site feature that requires adherence to direct dispersal requirements.</p> <p>The updated definition will provide specific exclusions from the definition and make clear what site features and conditions initiate direct dispersal requirements.</p>
<p>12VAC5-613-90</p>	<p><u>E. When an application is filed to repair or voluntarily upgrade an existing sewage system with an average daily sewage flow of 1,000 gallons per day or less, and the existing sewage system already disperses</u></p>	<p>A. The AOSS shall not pose a greater risk of ground water pollution than systems otherwise permitted pursuant to 12VAC5-610. After wastewater has passed through a treatment unit or septic tank and through the soil in the soil treatment area, the concentration of fecal coliform organisms shall not exceed 2.2 cfu/100 ml at the lower vertical limit of the project area boundary. B. Each large AOSS shall comply with TN limit of 5 mg/l at the project area boundary. Prior to the issuance</p>	<p>For repairs and voluntary upgrades that directly disperse effluent to groundwater, the new regulation sets treatment levels at 50% reduction of TN as compared to a conventional drainfield and adopt the TL-3 and standard disinfection standard of systems with less than 12 inches vertical separation to groundwater.</p> <p>The intent is to reduce the financial burden to owners</p>

	<p><u>effluent to groundwater as defined in 12VAC5-613-10, and the repair or upgrade must also be direct dispersal due to site conditions, then the repair or upgrade shall not be subject to the requirements of 12VAC5-613-90.C, 12 VAC5-613-90.D.4, and 12VAC5-613-100.G. The repair or upgrade shall be subject to the following requirements:</u></p> <p><u>1. A minimum 50% reduction of TN as compared to a conventional gravity drainfield system.</u></p> <p><u>2. Provide TL-3 effluent and standard disinfection in accordance with 12VAC5-613-80 (13), Table 2, for systems with less than 12 inches vertical separation to groundwater.</u></p> <p><u>3. Monitored pursuant to</u></p>	<p>of a construction permit, the designer shall demonstrate compliance with this requirement through modeling or other calculations. Such demonstration may incorporate multiple nitrogen removal methods such as pretreatment, vegetative uptake (only for AOSSs with shallow soil treatment areas), denitrification, and other viable nitrogen management methods. Ground water and other monitoring may be required at the department's discretion.</p> <p>C. AOSSs with direct dispersal of effluent to ground water are subject to the following requirements:</p> <ol style="list-style-type: none"> 1. If the concentration of any constituent in ground water is less than the limits set forth at 9VAC25-280, the natural quality for the constituent shall be maintained; natural quality shall also be maintained for all constituents not set forth in 9VAC25-280. If the concentration of any constituent in ground water exceeds the limit in the standard for that constituent, no addition of that constituent to the naturally occurring concentration shall be made. The commissioner shall consult with the Department of Environmental Quality prior to granting any variance from this subsection. 2. Ground water and laboratory sampling in accordance with 12VAC5-613-100G. 3. The treatment unit or system shall comply with the following at a minimum: <ol style="list-style-type: none"> a. The effluent quality from the treatment unit or system shall be measured prior to the point 	<p>seeking to repair or voluntarily upgrade their older sewage systems, which already disperse effluent into the watertable.</p> <p>The new subsection E will provide a more financially attainable level of treatment for previously developed properties, while still providing a high level of public health protection and encouraging owners not to waive regulatory requirements.</p> <p>The new subsection F will ensure that any AOSS that already complies with 12VAC-5-613-90.A - D must continue to do so when repaired or upgraded unless another regulatory compliant option is identified.</p>
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	<p><u>12VAC5-613-100.D or 12VAC5-613.100.E as appropriate.</u></p> <p><u>F. Paragraph E of this section does not apply to any application for repair or voluntary upgrade when the existing sewage system was installed on or after December 7, 2013, and the existing system was designed to meet the performance requirements for direct dispersal of effluent to groundwater as set forth in 12 VAC5-613-90.C, 12 VAC5-613-90.D.4, and 12 VAC5-613-100.G.</u></p>	<p>of effluent application to the soil treatment area and shall be as follows: BOD₅ and TSS concentrations each equal to or less than 5 mg/l; fecal coliform concentrations less than or equal to 2.2 col/100 ml as a geometric mean with no sample exceeding 14 col/100 ml; and TN concentration of less than 5 mg/l;</p> <p>b. High level disinfection is required; and</p> <p>c. Treatment systems shall incorporate filtration capable of demonstrating compliance with an average turbidity of less than or equal to 2 NTU prior to disinfection.</p> <p>4. Gravity dispersal to the soil treatment area is prohibited.</p> <p>5. Loading rates to the soil treatment area shall not exceed the loading rates in Table 1 of this section.</p> <p>6. A renewable operating permit shall be obtained and maintained in accordance with 12VAC5-613-60 C.</p> <p>7. The designer shall provide sufficient hydrogeologic analysis to demonstrate that a proposed AOSS will function as designed for the life of the structure served without degradation of the soil treatment area. This shall include a determination of ground water flow direction and rate.</p> <p>D. The following additional nutrient requirements apply to all AOSSs in the Chesapeake Bay Watershed:</p>	
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		<p>1. All small AOSSs shall provide a 50% reduction of TN as compared to a conventional gravity drainfield system; compliance with this subdivision may be demonstrated through the following:</p> <ul style="list-style-type: none"> a. Compliance with one or more best management practices recognized by the division such as the use of a NSF 245 certified treatment; or b. Relevant and necessary calculations provided to show one or both of the following: <ul style="list-style-type: none"> (1) Effluent TN concentration of 20 mg/l measured prior to application to the soil dispersal field; or (2) A mass loading of 4.5 lbs N or less per person per year at the project boundary provided that no reduction for N is allotted for uptake or denitrification for the dispersal of effluent below the root zone (>18 inches below the soil surface). <p>2. All large AOSSs up to and including 10,000 gallons per day shall provide a 50% reduction of TN at the project boundary as compared to a conventional gravity drainfield system. Compliance with this subdivision may be demonstrated as follows:</p> <ul style="list-style-type: none"> a. A demonstrated effluent quality of less than or equal to 20 mg/l TN measured prior to application to the soil treatment area; or b. In situ monitoring of the treatment works within 24 	
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		<p>vertical inches of the point of effluent application to the soil treatment area to demonstrate the effluent leaving the treatment works has a TN concentration of less than or equal to 20 mg/l. The designer shall identify an intermediate compliance point within the treatment system and a corresponding TN concentration for use in the event that a representative in situ sample cannot be obtained. The intermediate compliance point and the corresponding TN concentration for use must be approved by the department and shall be conditions of the operation permit.</p> <p>The AOSS operation permit shall be conditioned upon compliance with the constituent concentrations approved pursuant to this subdivision.</p> <p>3. All large AOSSs over 10,000 gallons per day shall comply with the following TN requirements:</p> <ul style="list-style-type: none"> a. A demonstrated effluent quality of less than or equal to 8 mg/l TN measured prior to application to the soil treatment area; or b. In situ monitoring of the treatment works within 24 vertical inches of the point of effluent application to the soil treatment area to demonstrate the effluent leaving the treatment works has a TN concentration of less than or equal to 5 mg/l. The designer shall identify an intermediate 	
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		<p>compliance point within the treatment system and a corresponding TN concentration for use in the event that a representative in situ sample cannot be obtained. The intermediate compliance point and the corresponding TN concentration for use must be approved by the department and shall be conditions of the operation permit.</p> <p>The AOSS operation permit shall be conditioned upon compliance with the constituent concentrations approved pursuant to this subdivision.</p> <p>4. For direct dispersal of effluent to groundwater in the Chesapeake Bay Watershed, TN concentration shall be less than or equal to 3 mg/l and total phosphorus concentration shall be less than or equal to 0.3 mg/l.</p>	
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