

Joint Environmental Committee

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Final AOSS Regulations



- <http://www.townhall.state.va.us/L/ViewXML.cfm?textid=4595>
- **Some key differences from Emergency Regulations:**
 - Spray irrigation and any system in wetlands specifically excluded
 - New nitrogen requirements for Chesapeake Bay watershed
 - Additional requirements for systems with direct dispersal to ground water
 - Phosphorus requirements for AOSS with direct dispersal to ground water

Final AOSS Regulations



- **Definitions**
- **Ksat added**
- **STE allowed for large AOSS**
- **Wetlands**
- **All PE designs § 32.1-163.6 unless...**
- **New Part V**
- **N for large AOSS only...for now**
- **Additional N limits for Chesapeake Bay delayed for 2 years.**
- **Single sample results...**

New Definition



- "State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

New Definition



- [“Point source discharge” means any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water run-off.]

Modified Definition



- "General approval" means that a treatment unit has been evaluated [~~and approved for TL-2 or TL-3~~] in accordance with the requirements of this chapter [~~and 12 VAC 5-610~~ and approved for TL-2 or TL-3 in accordance with this chapter.

Modified Definition



- "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.~~ GPD.]

Modified Definition



- "Project area boundary" [or "project boundary"] means the [physical] limits of the three-dimensional [~~space defined when~~ length, width, and depth of the project area, whereby each dimension is identified as follows:] (i) the horizontal component is the [length and width of the] project area; (ii) the upper vertical limit is the ground surface in and around the AOSS; and (iii) the lower vertical limit is [~~the vertical separation required by this chapter; a permeability limiting feature; or the permanent water table~~ the limiting feature.] _

Modified Definition



- "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 an operator are working in a coordinated manner to comply] with the requirements of this chapter

Modified Definition



- "Reportable incident" means one or more of the following: an alarm event [lasting more than 24 hours; an alarm event that re-occurs] ; any failure to achieve one or more performance requirements; removal of solids; replacement of media; or replacement of any major component of the system including electric and electronic components, pumps, blowers, and valves. The routine [maintenance cleaning] of effluent filters is not a reportable incident.

Modified Definition



- "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.~~ GPD.]

Modified Definition



- "Soil treatment area" means the physical location in [~~or on~~] the naturally-occurring soil medium where final treatment and dispersal of effluent occurs [; ~~the soil treatment area includes subsurface drainfields and drip dispersal fields~~] .

Modified Definition



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

Modified Definition



- "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas [and as otherwise identified by the Army Corps of Engineers] .



- Saturated hydraulic conductivity was added alongside percolation rates in Table 1.
- Dispersal of septic tank effluent for large AOSSs is allowed.
- All designs submitted by professional engineers will be evaluated pursuant to §32.163.6 of the Code of Virginia unless otherwise directed



- While the *Emergency Regulations* were silent on whether sewage systems installed into wetlands required a VPDES (Virginia Pollutant Discharge Elimination System) permit from DEQ, the proposed *AOSS Regulations* explicitly inform stakeholders that the Board of Health does not have authority to regulate activity within wetlands that are adjacent to waters regulated by DEQ under the Clean Water Act.



- A new Part V is being introduced to allow professional engineers to waive certain performance requirements in 12VAC5-613-80, specifically, 80.10, 80.11, and 80.13. The new Part V (12VAC5-613-210) will allow in situ monitoring of effluent prior to leaving the treatment works, when possible, and allow the engineer to set intermediate compliance points for treatment. The use of TL-2 and TL-3 would not be a performance measure if waived. With these changes, professional engineers could propose septic tank effluent, with or without the use of drip dispersal, shallower than 18-inches. There would also not be any performance requirement for maximum loading rates other than what standard engineering practice would dictate. Part V would also remove the performance requirement for 12 inches of soil cover on shallow installations.



- All large AOSS have a TN limit of 5mg/l at the project boundary; all AOSS with direct dispersal to ground water have, in addition to the ground water limits from 9VAC25-280, a TN limit of 5mg/l as measured before the point of application to the soil treatment area (both of these are **unchanged** from the proposed stage).



- **Chesapeake Bay Watershed requirements:** The implementation date for the additional nutrient reductions in the Chesapeake Bay Watershed (12VAC5-613-90.D) is delayed until July 1, 2013 or two years after the effective date of the regulation, whichever occurs later. TN for small AOSS (no direct dispersal) is 50% reduction (NSF Std 245 added as a BMP option). TN for systems from 1001 GPD up to 10,000 GPD (no direct dispersal) was changed to 20mg/l either prior to application to the soil treatment area or prior to leaving the treatment works as demonstrated via in situ monitoring or an intermediate compliance point if an in situ sample cannot be obtained. Nitrogen performance requirements for AOSS over 10,000 GPD (no direct dispersal) was changed to 8 mg/l before dispersal to the soil treatment area or 5 mg/l prior to leaving the treatment works as demonstrated via in situ monitoring or an intermediate compliance point if an in situ sample cannot be obtained. For designs without direct dispersal, standard engineering practice and the 9VAC25-280 would dictate phosphorous treatment. When there is direct dispersal to groundwater, in addition to the ground water limits of 9VAC25-280, nutrient limits are TN 3 mg/l and P 0.3 mg/l prior to dispersal to the soil treatment area.
- Flow is mostly expressed in thousands instead of millions. A performance requirement was added to prevent the bulking of solids to the treatment area.

Small AOSS



- All (not within Chesapeake Bay Water Shed)
No nitrogen reduction requirement.
- Direct Dispersal to Groundwater
(not within Chesapeake Bay Water Shed)
5 mg/l TN at end of pipe.
- Direct Dispersal to Groundwater
(within the Chesapeake Bay Water Shed)
3 mg/l TN at end of pipe.
- Within Chesapeake Bay Water Shed
50% reduction of TN

Large AOSS



(Not in Chesapeake Bay Water Shed)

- All AOSS
 - 5 mg/l TN at project boundary. Dilution can be used.
- Direct dispersal to groundwater.
 - <5 mg/l TN at end of pipe

Large AOSS cont.



(Within Chesapeake Bay Water Shed)

- 1,000 GPD – 10,000 GPD
 - 50% reduction of TN
- Over 10,000 GPD
 - 8 mg/l TN end of pipe or
 - 5 mg/l TN in-situ monitoring, and
 - 3 mg/l TN end of pipe if direct dispersal



- Enforcement guidance in 12VAC5-613-50 states that a single grab sample can only be used to establish a violation if there is additional evidence or an operator report supporting the conclusion. Operators do not have to report when a relationship with an owner ends and operators are not accountable when an owner refuses to perform O&M. The Department must receive a receipt of the recordation document before an operation permit is issued.