Board of Health
12VAC5-613
Emergency Regulations for Alternative Onsite Sewage Systems

Part 1: General

12VAC5-613-10. Definitions. The following terms used in this chapter shall have the following meanings. Terms not defined in this chapter shall have the meanings prescribed in Chapter 6 of Title 32.1 of the *Code of Virginia* or in 12VAC5-610-20 et seq. (or successor regulation) unless the plain reading of the language requires a different meaning.

"Ammonia nitrogen" or "ammonia" means the non-ionized form of reduced nitrogen (NH_3).

"Ammonium nitrogen" or "ammonium" means the ionized form of reduced nitrogen (NH_4^+).

"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" (BOD) is the measure of the amount of oxygen required by bacteria for stabilizing material that can be decomposed under aerobic conditions.

"BOD_5" or "biochemical oxygen demand, five-day" 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; expressed in milligrams per liter (mg/L).

"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.

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

"Dissolved oxygen**"** (DO) means the concentration of oxygen dissolved in effluent, expressed in mg/l or as percent saturation, where saturation is the maximum amount of oxygen that can theoretically be dissolved in water at a given altitude and temperature.

"Effluent" means partially or fully treated sewage flowing from a treatment unit or septic tank.

"Ksat" means saturated hydraulic conductivity.

"Large AOSS" means an AOSS that serves more than 3 single-family residences or a non-residential facility with an average daily sewage flow in excess of 1,000 gpd.

"Local health department" means the local health department having jurisdiction over the AOSS.

"Maintenance" means performing adjustments to equipment and controls and in-kind replacement of normal wear and tear parts such as light bulbs, fuses, filters, pumps, motors, or other like components. Maintenance includes pumping the tanks or cleaning the building sewer on a periodic basis. Maintenance shall not include replacement of tanks, drainfield piping, distribution boxes, or work requiring a construction permit and installer.

"Nitrate nitrogen" or "nitrate" means the stable form of oxidized nitrogen (NO_3^{-})

"Nitrite nitrogen" or "nitrite" means the unstable form of oxidized nitrogen (NO_2^{-})

"Non-tidal surface waters" means any perennial stream, river, lake, pond, or other body of water which is not affected by tidal actions. A perennial stream is one that is shown as a solid blue line on a United States Geological Survey (USGS) topographic map.

"Operate" means the act of making a decision on one's own volition (i) to place into or take out of service a unit process or unit processes or (ii) to 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 as being qualified to operate, monitor, and maintain an alternative onsite sewage system.

"Organic loading rate" means the biodegradable fraction of chemical oxygen demand (biochemical oxygen demand, biodegradable FOG, and volatile solids) delivered to a treatment component in a specified time interval expressed as mass per time or area; e.g., pounds per day or pounds per cubic foot per day (pretreatment); pounds per square foot per day (infiltrative surface or pretreatment). For a typical residential system these regulations assume that biochemical loading (BOD_5) equals organic loading.

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

"pH" means the measure of the acid or base quality of water that is the negative log of the hydrogen ion concentration.

"Project area" means a recorded lot or a portion of a recorded lot owned or controlled by easement by the owner of an AOSS upon which an AOSS is located or contiguous to an a soil treatment area and is designated as such for purposes of compliance with the performance requirements of this chapter. In the case of an AOSS serving multiple dwellings, the project area may include multiple recorded lots as in a subdivision.

"Relationship with an operator" means an agreement between the owner of an AOSS and operator wherein the operator has been retained by the owner to operate the AOSS in accordance with the requirements of this chapter.

"Reportable incident" means one or more of the following: an alarm event, any failure to achieve one or more performance requirement, loss of power, removal of solids, replacement of media, or replacement of any major component of the system including electric and electronic components, pumps, blowers, and valves. Routine maintenance of effluent filters is not included.

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

"Secondary effluent" means effluent that has been treated to produce BOD_5 and TSS concentrations equal to or less than 30 mg/L each on a 30-day average basis and a total and an NH_3 content equal to or less than 1 mg/L.

"Secondary treatment" means biological and chemical treatment processes, individually or in combination, designed to remove organic matter.

"Settleable Solids" means a measure of the volume of suspended solids that will settle out of suspension within a specified time, expressed in milliliters per liter (mL/L).

"Sewage Handling and Disposal Regulations" or "SHDR" means 12VAC5-610-20 et seq. or successor regulation adopted by the Board of Health.

"Small AOSS" means an AOSS that serves no more than 3 single family residences or a non-residential facility with an average daily sewage flow of less than or equal to 1,000 gpd.

"Subsurface drainfield" means a system installed within the soil and designed to accommodate treated sewage from a treatment works.

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

"Tertiary effluent" means effluent that has been treated to produce BOD_5 and TSS concentrations equal to or less than 10 mg/L each on a 30 day average basis, a total NH_3 content equal to or less than 1 mg/L.

"Total Kjeldahl Nitrogen" or "TKN" means a measure of the total concentration of organic nitrogen, ammonia, and ammonium nitrogen

"Total nitrogen" means the measure of the complete nitrogen content of wastewater including TKN, nitrate nitrogen, and nitrite nitrogen expressed in mg/L.

"Total residual chlorine" (TRC) is a measure of the combined available chlorine and the free available chlorine available in a sample after a specified contact time.

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

"Treatment train" means a site-specific combination of components that make up a wastewater treatment system; a simple example of a treatment train is a septic tank and a soil treatment area.

"Treatment unit" or "treatment device" 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 discharged to a soil treatment area.

"Turbidity" means the relative clarity of effluent as a result of the presence of varying amounts of suspended organic and inorganic materials or color.

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

Statutory Authority

§§32.1-12, 32.1-164, and 2.2-4011 of the Code of Virginia.

12VAC5-613-20. Purpose and Authority. Pursuant to the requirements of *Va. Code* §§ 32.1-12 and -164 et seq., 2.2-4011, and Acts of Assembly 2009, Chapter 0220, the Board of Health has promulgated this chapter to:

A. Establish a program for regulating the operation and maintenance of alternative onsite sewage systems;

B. Establish performance requirements for alternative onsite sewage systems;

C. Establish horizontal setbacks for alternative onsite sewage systems that are necessary to protect public health and the environment;

D. Discharge the Board's responsibility to supervise and control the safe and sanitary collection, conveyance, transportation, treatment, and disposal of sewage by onsite sewage systems and treatment works as they affect the public health and welfare;

E. Protect the quality of surface water and ground water;

F. Guide the State Health Commissioner in determining whether a permit or other authorization for an alternative onsite sewage system shall be issued or denied; and

G. Inform owners, applicants, onsite soil evaluators, system designers, and other persons of the requirements for obtaining a permit or other authorization for an alternative onsite sewage system.

Statutory Authority

§§32.1-12, 32.1-164, and 2.2-4011 of the Code of Virginia.

12VAC5-613-30. Applicability and Scope.

A. As provided in this section, this chapter governs the design, construction, and operation of AOSSs.

B. Part 3 of this chapter, Operation and Maintenance Requirements, shall apply to all AOSSs, including those in operation prior to the effective date of this chapter.

C. The laboratory sampling requirements of this chapter apply only to AOSSs permitted pursuant to applications filed on or after the effective date of this chapter.

D. Part 2 of this chapter, Performance Requirements, apply only to alternative onsite sewage systems permitted pursuant to applications filed on or after the effective date of this chapter.

E. Any AOSS in operation prior to the effective date of this chapter is subject to the performance requirements contained in the regulations in effect at the time the system was permitted.

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

G. This chapter shall be effective for twelve months following the effective date, unless extended in accordance with the provisions of *Va. Code* § 2.2-4011.

H. AOSSs designed pursuant to *Va. Code* § 32.1-163.6 are subject to the following requirements:

1. performance requirements of this chapter;

2. horizontal setback requirements of this chapter;

3. operation, maintenance, inspection, and sampling requirements of this chapter; and

4. standard engineering practice.

12VAC5-613-40. Relationship to other regulations. This chapter is supplemental to 12VAC5-610-20 et seq. (the *Sewage Handling and Disposal Regulations* or *SHDR*) and supersedes Table 5.4 of the SHDR. All procedures pertaining to enforcement, the minimum requirements for filing applications, and the processing of applications, including appeals, and case decisions contained in 12VAC5-610-20 et seq. (or successor regulation) shall apply to the permitting of AOSS under this chapter. In any case where there is a conflict between this chapter and 12VAC5-610-20 et seq. (or successor regulation), this chapter shall be controlling.

12VAC5-613-50. Violations, enforcement.

A. Failure by any person or AOSS to achieve one or more performance requirements prescribed by this chapter, to accomplish any mandated visit, or any operation, maintenance, monitoring, sampling, reporting, or inspection requirement of this chapter, either individually or in combination, shall be a violation of this chapter.

B. Nothing in this chapter shall be construed to limit the authority of the Board, the Commissioner, or the Department to enforce this chapter or the requirements of 12VAC5-610-20 et seq. (or successor regulation).

C. In accordance with the SHDR and Va. Code § 32.1-25 the commissioner may take such samples and conduct such monitoring, including ground water samples and monitoring, he deems necessary to enforce this chapter.

D. The Board, commissioner, and Department may use any lawful means to enforce this chapter, including voiding a construction or operation permit, imposition of civil penalties, or criminal prosecution.

Statutory Authority

§§32.1-12 and 32.1-164 of the Code of Virginia.

12VAC5-613-60. Operation permits, land records.

A. The Department shall not issue an operation permit for an AOSS unless the owner has established a relationship with an operator and provided the operator's name and license number to the local health department. The owner shall maintain a relationship with an operator at all times as long as the AOSS is in operation.

B. The Department shall not issue an operation permit for an AOSS until the owner has recorded an instrument which complies with *Va. Code* § 15.2-2157.E in the land records of the appropriate circuit court.

Part 2: Performance Requirements

12VAC5-613-70. Performance requirements- general.

A. All AOSS designed, constructed and operated pursuant to this chapter shall comply with the following performance requirements:

1. The presence of raw or partially treated sewage on the ground's surface or in adjacent ditches or waterways is prohibited. Spray irrigation systems and other systems utilizing surface application of treated effluent require, by design, the presence of effluent on the surface for short periods of time. With these systems compete absorption of effluent must occur before the application of another dose.

2. The exposure of insects, animals, or humans to raw or partially treated sewage is prohibited.

3. The backup of sewage into plumbing fixtures is prohibited.

4. All treatment units shall be designed for the wastewater strength and peak flow anticipated.

5. All treatment units shall be designed to produce a minimum of secondary effluent.

6. Dosing of the treatment unit shall accommodate the design peak flow within the treatment unit's rated capacity

7. The soil treatment area shall be appropriately sized for the hydraulic capacity of the underlying soils. Trench bottom hydraulic loading rates shall not exceed the values in Table 1. Area hydraulic loading rates for systems such as drip dispersal, spray

irrigation, and mounds should be less than the trench bottom maximum values in Table 1. Adherence to this performance requirement does not assure or guarantee that other performance requirements of this chapter, including effluent dispersal or ground water quality, will be met. It is the designer's responsibility to ensure that the proposed design is adequate to achieve all performance requirements of this chapter.

Table 1: Maximum Trench Bottom Hydraulic Loading Rates

Soil Texture Group	Maximum % Ksat, trench bottom (gravity dosing)	Maximum % Ksat, trench bottom (pressure dosing)
I and below	Up to 10	Up to 15
II and III	Up to 20	Up to 25
IV and above	Up to 25	Up to 35

8. The soil treatment area must be appropriately sized for the the organic capacity of the underlying soils. Trench-bottom organic loading rates must meet the limits established in Table 2. Area organic loading rates for systems such as drip dispersal, spray irrigation, and mounds, should be reduced from the maximum trench bottom organic loading rates in Table 2. Adherence to this performance requirement does not assure or guarantee that other performance requirements of this chapter, including effluent dispersal or ground water quality, will be met. It is the designer's responsibility to ensure that the proposed design is adequate to achieve all performance requirement of this chapter. will be met.

Table 2
Maximum Trench Bottom Organic Loading Rates

Vertical Separation to Water Table or Other limiting Condition	TB Loading Rate
≥ 18"	0.00150 lb/day/sf
17"-12"	0.00083 lb/day/sf
≤ 11"	0.00045 lb/day/sf

9. Septic effluent may only be discharged to a soil treatment area when the vertical separation to a limiting condition consists of at least 18 inches of naturally-occurring, in-situ soil.

10. Tertiary treatment and disinfection are required whenever there is less than 12 inches of vertical separation to a limiting condition in the soil treatment area or, whenever there is less than 6" of vertical separation to a limiting condition in the naturally-occurring soil below the soil treatment area, and for any AOSS that utilizes surface application of effluent, such as spray irrigation.

11. Anytime the vertical separation to a permeability-limiting feature, including rock, pans, and other restrictions is less than 18 inches and for any AOSS with a design flow greater than 1,000 gpd, the designer shall provide calculations to demonstrate that water mounding will not adversely affect the functioning of the soil treatment area, that hydraulic failure will not occur, and that adequate vertical separation will be maintained to ensure the performance requirements of this chapter are met.

12. The AOSS shall not pose a greater risk of ground water pollution than systems otherwise permitted pursuant to 12VAC5-610-20 et seq. After wastewater has passed through a treatment unit or septic tank, been disinfected where required, and passed through the soil in the soil treatment area, the concentration of fecal coliform organisms must not exceed 200 cfu/100 ml. When chlorine is used for disinfection, 30-minute contact is required with a TRC following the contact tank not less than 1 mg/l nor more than 2 mg/l.

13. The following minimum effluent and site condition requirements must be met:

Vertical separation from point of effluent application in the soil treatment area to a limiting feature	**Description**	**BOD (mg/l)**	**TSS (mg/l)**	**Ammonia Nitrogen (mg/l)**
≥ 18" (must be naturally-occurring soils)	Septic	≤ 250	≤ 140	NA
> 18" to 12" (may utilize engineered fill)	Secondary	30	30	≤ 1
< 12" (may utilize engineered fill)	Tertiary	10	10	≤ 1

Table 3: Minimum Effluent Requirements for Site Conditions

14. Total nitrogen loading shall not exceed the values in Table 4.

Table 4: Total Nitrogen Loading

Location	**Limit (lb/ac/yr)**
≤ 1,000 feet from tidal waters	5.0
≤ 1,000 feet from non-tidal surface waters	8.0
All others	13.3

15. Prior to the issuance of a construction permit, the designer shall demonstrate through modeling or other calculations that the concentration of nitrate nitrogen in ground water will not exceed 5 mg/l at the project area boundary.

16. The total nitrogen limits shall not apply to any lot recorded on or before the effective date of this chapter, or for which there is a valid certification letter issued on or before the effective date of this chapter, or where an onsite sewage system originally installed on or before the effective date of this chapter has failed and is being replaced or repaired pursuant to this chapter.

17. The AOSS shall be designed so that all components are of sufficient structural integrity to minimize the potential of physical harm to humans and animals.

18. The AOSS shall be designed to minimize noise, odor, or other nuisances at the property boundary.

19. The conveyance system for any AOSS shall be designed and installed with sufficient structural integrity to resist inflow and infiltration and to maintain forward flow.

20. Spray irrigation systems are limited to AOSSs with average daily sewage flows of 1,000 gpd or less.

B. Plans for AOSS not submitted pursuant to 12VAC5-610-20 et seq., the policies, and procedures of the Department must state clearly, preferably on the title page that they are being submitted pursuant to Virginia Code § 32.1-163.6. The Department will review any plans that are not clearly marked in this fashion under the SHDR.

C. Each application shall include a site characterization report using the Field Book for Describing and Sampling Soils, Version 2.0, National Soil Survey Center, Natural Resources Conservation Service, U.S. Department of Agriculture, September 2002. The report may contain such information that the designer deems appropriate, however it must describe the following minimum attributes of the site of the proposed soil treatment area:

1. Depth to limiting feature(s), including seasonal or perched water table, pans, restrictions, pervious or impervious bedrock;

2. Slope of the project area;

3. Ksat at the proposed installation depth and at depths below the soil treatment area to demonstrate compliance with this chapter. Ksat may be estimated when the proposed system will have a daily sewage flow of 1,000 gallons per day or less; the Ksat must be measured using an appropriate device when the proposed system will have a daily sewage flow of greater than 1,000 gallons per day.

4. Landscape or landform; and

5. Project area, along with those physical features in the vicinity of the proposed AOSS normally associated with plans for onsite sewage systems, including streams, bodies of water, roads, utilities, wells and other drinking water sources, existing and proposed structures, and property boundaries.

D. All large AOSS shall discharge only secondary effluent or tertiary effluent to the soil treatment area; septic effluent is prohibited for large AOSSs.

12VAC5-613-80. Performance requirements- laboratory sampling and monitoring.

A. All sampling and monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency unless other procedures have been specified in this permit.

B. The owner of each small AOSS is required to submit a grab sample of the effluent from the treatment unit and have the sample analyzed by an EPA certified laboratory within the first 180 days of operation. Thereafter, if the treatment unit has received general approval, a sample is required once every five years. Samples shall be analyzed for BOD, TSS, total nitrogen, and if applicable, total residual chlorine or fecal coliform. Sample results must be received by the local health department by the 10th of the month following the month in which the sample was taken.

C. For small AOSSs that utilize a treatment unit that has not received general approval, after the initial sample required by subsection A, a grab sample of the effluent from the treatment unit is required once every six months for the first two years of operation and annually thereafter. Sample results must be received by the local health department by the 10th of the month following the month in which the sample was taken.

D. All effluent samples must be taken from the end of the treatment train, prior to the point where the effluent is discharged to the soil treatment area.

E. Laboratory sampling is not required for AOSSs discharging septic effluent to the soil treatment area. All mandatory pumpout and inspection requirements required by local ordinances adopted pursuant to the Chesapeake Bay Protection Act, Va. Code § 10.1-2100 et seq. are hereby incorporated as performance requirements of this chapter.

F. Sampling and monitoring requirements for AOSS are contained in Table 5.

Table 5: SAMPLING PROGRAMS FOR AOSS.

PLANT SIZE	>2.01 MGD	1.0-2.0 MGD	0.101-0.999 MGD	0.041-0.1 MGD	0.011-0.04 MGD	0.0011-0.010 MGD	≤1000 gpd
Flow	Totalizing, Indicating & Recording	Totalizing, Indicating & Recording	Totalizing, Indicating & Recording	Totalizing, Indicating & Recording	Estimate	Estimate	Estimate
BOD_5, TSS	24-HC 1/Day	24-HC 5 Days/Wk	8-HC 3 Days/Wk	4-HC 1 Day/Wk	Grab quarterly	Grab 1/yr	Grab 1/yr
Total Nitrogen	24-HC weekly	24-HC weekly	8-HC ~~½~~ monthly	4-HC quarterly	Grab quarterly	Grab 1/yr	
TRC, Contact Tank**	Grab daily	Grab daily	Grab weekly	Grab weekly	Grab weekly	Grab 1/yr	Grab 1/yr
Fecal Coliform***	Grab weekly	Grab weekly	Grab monthly	Grab monthly	Grab quarterly	Grab 1/yr	Grab 1/yr

** if disinfection required and chlorine used
***if disinfection required and another disinfecting process such as ultraviolet light is used

12VAC5-613-90. Performance requirements- field testing, and observations:

A. Field tests must be performed at each mandated visit and during any reportable incident response visit as indicated in Table 6. The operator must report the results of all field tests and observations.

Table 6: Field Observations and Testing - Systems from 1 gpd to 39,999 gpd

Parameter	**Average Daily Flow (gpd)**		
	1- 1,000 gpd	1,001-9,9999	10,000-39,999
Flow	Required (measured or estimate)	Required	Required
pH	Operator discretion	Required	Required
TRC (After contact tank)	Required	Required	Required
DO (aeration tank)	Operator discretion	Required	Required
Odor	Operator discretion	Required	Required
Turbidity (visual)	Operator discretion	Required	Required
Settleable solids	Operator discretion	Required	Required

Part 3: Operation and Maintenance

12VAC5-613-100. Operator responsibilities.

A. Whenever an operator performs a visit that is required by this chapter, or observes a reportable incident he must document the results of that visit in accordance with 12VAC5-613-170.

B. Whenever an operator performs a visit that is required by this chapter, he shall do so in such a manner as to accomplish the various responsibilities and assessments required by this chapter using visual and other observations, laboratory and field tests he deems appropriate and as required by this chapter.

C. Each operator must keep a log for each AOSS for which he is responsible. The operator must provide a copy of the log to the owner. In addition, the operator shall make the log available to the Department upon request. At a minimum, the operator must record the following items in the log:

1. Results of all testing and sampling,

2. Reportable incidents,

3. Maintenance, corrective actions, and repair activities performed,

4. Recommendations for repair and replacement of system components,

5. Sludge or solids removal, and

6. The date and time reports were given to the owner.

D. At all times when performing activities pursuant to this chapter, the operator is responsible for the entire AOSS, including treatment components and soil treatment area components.

E. An operator must notify the appropriate local health department when his relationship with an owner terminates.

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

12VAC5-613-120. Owner responsibilities. The owner of an AOSS must:

A. Maintain a relationship with an operator,

B. Have the AOSS operated by an operator,

C. Have an operator visit the AOSS at the frequency required by this chapter,

D. Have an operator collect any samples required by this chapter, and

E. Keep a copy of the log provided by the operator on the property where the AOSS is located, make the log available to the Department upon request, and make a reasonable effort to transfer the log to any future owner.

F. Keep a copy of the Operation and Maintenance Manual (O&M Manual) on the property where the AOSS is located, make the manual available to the Department upon request, and make a reasonable effort to transfer the O&M Manual to any future owner.

12VAC5-613-130. Operator requirements for AOSSs with flows up to 40,000 gpd, minimum frequency of visits. The owner of each AOSS shall have that AOSS visited by an operator in accordance with Table 7.

Table 7: Operator visit frequency for AOSS up to 40,000 gpd

Avg. Daily Flow (gpd)	Initial Visit	Regular visits following initial visit
1-1,000	Within 180 calendar days of the issuance of the operation permit	Every 12 Months
1,001-10,000	First week of actual operation	Quarterly
10,001-40,000	First week of actual operation	Monthly

12VAC5-613-140. Operator requirements for systems with flows greater than 40,000 gpd.

A. AOSS's with average daily flows in excess of 40,000 gpd shall be attended by a licensed operator and manned in accordance with the minimum frequencies established in Table 1 of 9VAC25-790-300.

B. In instances where the hours of attendance by a licensed operator are less than the daily hours the treatment works is to be manned by operating staff (see Table 1), a licensed operator is not required to be physically located at the treatment works site during the remaining designated manning hours, provided that the licensed operator is able to respond to requests for assistance in a satisfactory manner, as described in the Operation and Maintenance Manual.

C. In all cases, attendance by an operator is required. Attendance by the operator may not be waived as suggested in Table 1, 9VAC25-790-300.

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

A. This chapter outlines minimum operation, maintenance, sampling, and inspection requirements. Operation, maintenance, sampling, and inspection schedules for some AOSS may exceed these minimum requirements, in which case the designer

is responsible for determining such additional requirements based upon the proposed use, design flow, project area, hydraulic and organic loading rates, nitrogen removal, treatment level, and other factors.

B. Prior to the issuance of an operating permit, the owner shall have the designer submit an Operation and Maintenance ("O&M") Manual to the local health department. The designer shall provide a copy of the O&M manual to the owner. The Department may issue a temporary operation permit for a period not to exceed 180 calendar days pending completion of the O&M Manual. Failure to submit the O&M Manual within the time frame provided under a temporary operation permit shall be deemed a violation of this chapter.

C. The O&M Manual shall be written language easily understood by any potential owner and shall include the following minimum items:

1. A list of the components comprising the sewage system with dimensioned site layout and contact numbers for replacement parts for each unit process,

2. A list of any control functions and how to use them;

3. All operation, maintenance, sampling, and inspection schedules, including any requirements that exceed the minimum requirements of this chapter, for the AOSS;

4. The performance data sampling and reporting schedule;

5. The limits of the sewage system design and how to operate the system within those design limits; and

6. Other information deemed necessary or appropriate by the designer.

12VAC5-613-160. Mandatory visits, inspection requirements. When an operator is required to make a visit to an AOSS he shall, at a minimum accomplish the following:

A. Inspect all components of the AOSS and conduct field testing and other observations required by this chapter, the O&M Manual, or 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 this chapter 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.

12VAC5-613-170. Reports. When required to file a report, the operator must complete the report in a form approved by the Division. In accordance with *Va. Code* § 32.1-164.H the operator must file each report using a web-based system and must pay a fee of $1.00. The operator may, solely at his own discretion, file reports in addition to those required by this chapter. Each report must be filed by the 10th of the month following the month in which the visit occurred and must include the following minimum elements:

A. The name and license number of the operator
B. The date and time of the report
C. The purpose of the visit, such as required visit, follow-up, or reportable incident;

D. A summary statement stating whether:

1. the AOSS is functioning as designed and in accordance with the performance requirements of this chapter,

2. after providing routine operation and maintenance the operator believes the AOSS will return to normal function, or

3. the system is not functioning as designed or in accordance with the performance requirements of this chapter and additional actions are required by the owner to return the AOSS to normal function.

C. All maintenance performed or adjustments made, including parts replaced;
D. The results of field tests and observations
E. Results of laboratory samples or the name of the laboratory that will process samples;
F. Statement certifying the date and time the operator provided a copy of the report to the owner.

Part 4: Horizontal Setback Requirements

12VAC5-613-180. Horizontal setback requirements. AOSS designed pursuant to Va. Code 32.1-163.6 are subject to the following horizontal setbacks which are necessary to protect public health and the environment:

A. The horizontal setback distances that apply to public and private drinking water sources of all types, including wells, springs, reservoirs and other surface water sources, except that in cases where an existing sewage system is closer to a private drinking water source the AOSS shall be no closer to the drinking water source than the existing sewage system;
B. The horizontal setback distances that apply to shellfish waters; and
C. The horizontal setback distances that apply to sink holes.

References:
EPA Standard Methods
Sewage Collection and Treatment regulations
Glossary of the Consortium of Institutes for Decentralized Wastewater Treatment