Part 10 OPERATION AND MAINTENANCE, PERFORMANCE MONITORING, AND REPORTING

12VAC5-611-xxx Applicability - (alt oss, conv oss, alt dish, size 1000gpd & less, over 1000gpd) Yellow = comments from VOWRA or SHADAC

12VAC5-611-xxx Licensed Onsite System Operators

A. The responsibility of the licensed onsite system operator is to place into or take out of service a unit process or unit processes or to make or cause adjustments in the operation of a unit process and to determine if a component or device is functional at an Onsite Sewage System (OSS).

1.1 Conventional onsite system operators shall not operate or maintain alternative onsite sewage systems including what may be considered conventional components of an alternative onsite sewage system. Note clarified the definition of alternative system to include components and may not need this section.

1.2 The owner shall have the operator place a sticker or other prominent weather resistant label on the outside door of the control panel or other obvious location displaying his / her name and phone number in not less than 24 point font.

1.3 When required by this Chapter to file a report, the licensed operator shall provide such report in a form approved by the Division and shall enter it into the web-based system approved by the health department not more than 10 business days after the site visit, and pay a fee of $1 at the time the report is filed.

1.4 The minimum standard for a **routine** (mandated) site visit report shall be defined in the implementation manual accompanying these regulations and may be updated from time to time. In all cases the report shall contain at a minimum:

1.4.1 A statement as to whether:

1.4.1.1 There is Sewage on the Ground?

1.4.1.2 Sewage is backed up into structure ~~Dwelling~~?

1.4.1.3 There is a significant loss of Downstream Capacity? *How is this determined*

What about a statement that all units are functional?

1.4.1.4 The system appears to be achieving the treatment requirement prescribed in the Operation Permit based on field testing and/or observation .

1.4.1.5 There is additional maintenance required? If yes, describe.

1.4.2 Operators name and license number

1.4.3 System ID

1.4.4 The date the site visit was completed.

1.4.5 Deficiencies identified if any.

1.4.6 Routine operation, maintenance or corrective actions completed..

1.4.7 Changes to the operational capacity of the system. (may be combined in checklists) *How would this be picked up in an operator's inspection? Are you talking about units offline, failed fields, etc? I don't see this one.*

1.5 The minimum standard for monitoring (sampling) reporting shall be defined in the implementation manual accompanying these regulations and may be updated from time to time. In all cases the operator shall file a report containing the following minimum information: *will the owner get a permit that has the required monitoring and O&M? If so, that would be the basis for any individual samples taken*

1.5.1 The results of the samples taken.

1.5.2 Operators name and license number

1.5.3 The date the site visit was completed.

1.5.4 Was a site visit report completed?

1.5.5 System ID

12VAC5-611-xxx Operation & Maintenance of Onsite Sewage Systems

The owner of an ~~conventional~~ onsite sewage system ~~or alternative onsite sewage system~~ is responsible for its operation and maintenance to ensure the safe, adequate and proper sanitary treatment and disposal of sewage. To accomplish this, the owner of an onsite sewage system (OSS) shall:

1.6 Operate, and maintain the OSS in a manner consistent with the general operation permit or site specific operation permit issued by the Health Department. (VDH / VOWRA should provide manual or brochure for general operation permit)

1.6.1 The owner of any OSS located within the Chesapeake Bay Preservation Area shall have the septic tank inspected or cleaned at least once every five-years.

1.7 Prohibit anyone other than a properly categorized licensed operator or properly categorized licensed installer ~~defined by (DPOR Reg)~~ to perform any operation, maintenance or repair on the OSS. *While the licensing is defined in DPOR, VDH should be requiring a licensed operator in accordance with its general permit or site specific permit that is based the DPOR reg. I don't think you want to reference another agency's regulations.* Need to allow pumping which by definition is maintenance

1.8 Allow the Health Department to enter the property where an OSS is located to perform inspections.

1.9 Obtain a permit from the local health department for any repair, replacement or improvement of the OSS not specifically identified as operation or maintenance.

1.10 Protect the area where tanks or other components of the OSS are installed including the active and reserve dispersal area from:

1.10.1 Cover by structures, pervious paving or any impervious material unless authorized by a permit from the health department.*Need to consistently reference VDH - [pick one name and use it throughought]*

1.10.2 Installation of vegetable gardens, shrubs, trees or other deep-rooted vegetation within 10 feet of an OSS.

1.10.3 Surface drainage, and direct drains including but not limited to footing, sump pump, spa, pool or roof drains which discharge within twenty feet of any part of an OSS.

1.10.4 Soil compaction, for example by machinery, vehicular traffic or livestock, which negatively impacts the infiltrative capacity of the active or reserve dispersal area.

1.10.5 Damage by soil removal, soil addition and grade alteration on or within twenty feet of an OSS without a permit from the health department.

1.11 To ensure the long term performance of the OSS, the owner shall keep the flow of sewage to the OSS at or below the approved operating capacity and sewage characteristics identified in the operation permit by:

1.11.1 Monitoring water bills, water meters, water conditioner meters or other methods of recording water associated with the structure(s) served by the OSS. Most don't have such.

1.11.2 Following health department or licensed operator recommendations related to the operating capacity calculated from flow monitoring systems associated with the OSS.

1.11.3 Following health department or licensed operator recommendations related to the sewage strength including the proper use of garbage disposals, operation of water treatment systems, improper disposal of toxic or other materials not recommended for an OSS, and obtaining laboratory analysis of sewage quality when requested by the licensed operator or health department.

1.12 The owner of an alternative onsite sewage system shall have that system operated and visited as required by the operation permit by a licensed alternative onsite sewage system operator. The owner shall designate only one such licensed operator at a time to be responsible for the OSS for onsite systems less than 10,000 gallons per day. *You may want to break these into single family and commercial <1000 gpd, community systems <10000 gpd, and all other community systems.* Current OP's lacking.

2.0 Routine Site Visit

A routine site visit is an event where the licensed operator performs an assessment of an OSS by physically evaluating the components of the OSS at the property where the OSS is located on a pre-scheduled basis. Events where operation may take place via remote telemetry or other evaluations, which may be completed off-site to determine compliance, complete reports and lab analysis or otherwise evaluate an OSS are not considered routine site visits.

2.1 Routine site visits ordinarily consist of assessing the function and compliance of the onsite sewage system, performing routine maintenance, making or causing adjustments in the operation of the OSS and in-kind replacement of normal wear and tear parts such that the OSS can be expected to function adequately until the next scheduled routine site visit.

2.2 The required number of routine site visits per year for alternative onsite sewage systems shall be identified in the operation permit. The Health Department may issue a general operation permit for a group of alternative systems or a site-specific operation permit detailing the requirements for operation and maintenance. A site-specific operation permit supersedes any general operation permit issued by the Health Department.

2.3 The time between routine site visits shall be not more or less than 15% of the required visit interval *(not greater than 210 days or less than 150 days for semi-annual requirements)* to ensure the system is operated and maintained through the entire year and allow operators flexibility in grouping routine site visits.

2.4 The requirements for a routine site visit shall be determined by the division and listed in the implementation policy accompanying this regulation and may be amended from time to time as deemed necessary by the division.

Suggested Site Visit Guidance *Wouldn't a holding tank be inspected at the time of pump out? Not sure you need a separate frequency for those. For the other <1000 gpd this is ok, community systems should be looked at more frequently*

Type alternative system	90 days from start-up or from new owner	Every 6 months there after	Every year	Every 2 years
Privy	X			X
Holding tank*	X		X	
Septic LPD	X		X	
All others	X	X		
* The pumping frequency is not governed by the formal site visit of an operator				
These suggested frequencies are the maximum length of time between routine site visits. More frequent visit can be spelled out in the individual operation permit				

Monitoring Frequency Guidance *What would be the point of monitoring a septic lpd? Wouldn't you only want to monitor(sample) systems where the design requires a level of treatment such as secondary or disinfection?*

Type Alternative system	90 days from start up	Results of tests	90 days from failed test	Results of tests	Two Years	Results of tests two year	Refer to VDH for Compliance
Privey sp? or holding tank	N/A	N/A	N/A	N/A	N/A	N/A	
All others	X	Pass			X		
		Fail	X	Pass	X		
				Fail			X
						Pass	
						Fail (return to 90 day test)	

3.0 Non-reportable events.

Except as noted in Sections XXX and XXX (reportable events and routine visits) visits to a site by an operator that are not required by this chapter are not subject to the site visit requirements contained in 12VAC5-611-XXX (site visit requirements). Such visits, may include, but are not limited to, consultation with owners, alarm events, complaints, events where operation may take place via remote telemetry, and other evaluations which may be completed off-site to determine compliance, complete reports and lab analysis or otherwise evaluate an OSS. The operator shall be responsible for maintaining a log of such activities and shall make that log available to the Department or the owner upon request.

12VAC5-611-XXX. Reportable events.

Regardless of when they occur, the following events require a report from the operator:

Replacement of electrical or mechanical equipment or components necessary for proper functioning of the system. These may include pumps, blowers, valves, switches, and controls;

Removal of solids or other contents from a tank or portion of a system;

Replacement of media;

Surfacing of effluent;

Unsafe conditions????such as??? *Tank in danger of collapse, exposed electrical components, slip trip fall hazards, open manhole covers/access ports, etc.*

Other events as determined by the Division *alarm conditions and resolution of alarms, failure of disinfection when applicable,*

4.0 Design Parameters & Compliance

4.1 Design Parameters

The licensed onsite system operator is responsible for determining whether or not the OSS is operating within the design parameters a general operation permit or site specific operation permit for the OSS.

4.1.1 For the purposes of operation and maintenance Sewage Strength is the measure of Biological or Biochemical Oxygen Demand, Total Suspended Solids and Oil / Grease *Consider not saying anything here as to what is to be monitored. Just say that the system is to be monitored and evaluated against the effluent limits/design parameters in the facility's permit.*

4.1.2 For the purposes of operation and maintenance Sewage Flow is defined as the 7-day average of sewage flow measured in gallons. *Why 7 day average? And is that reasonable to state for <1000 gpd? You may want to look at monthly or annual average as that can be verified by meter readings to some extent unless you want to put flow monitoring on all of these.*

4.2 Compliance for C&A systems

Onsite sewage systems shall be found to be in compliance when they are operating in a safe adequate and proper manner and*: It doesn't appear as if the sampling/monitoring will be used for much. If so, why do it? For single family homes, <1000 gpd, This is fine, but for larger systems I think you need to get more structured*

4.2.1 The structure has been occupied under normal conditions for at least 90-days prior to the site visit or inspection

4.2.2 There are no Level 1 or Level 2 violations

4.2.3 Required actions to correct level 3 violations are completed within 30 days

Safe - means that the onsite sewage system is operating in a manner where it is not currently and is not expected to adversely affect public health or ~~groundwater supplies~~ waters of the Commonwealth.

Adequate - means that the onsite sewage system is sufficiently designed, constructed, maintained and operated to account for the sewage flow and strength expected from the facility. Any onsite sewage system which is determined not to be operating in a forward flow manner or when *when what?*

Proper - means that the local health department has issued an Operations Permit or other approval for the onsite sewage system and such permit is valid and not currently revoked, expired or non-compliant.

Hydraulic Stress – means (1) sewage is backing up in the distribution box above the dams or, (2) sewage is backing up in the freeboard of the tank (s), (3) when a free liquid surface is more than 8" from the bottom of the majority of the trenches for two or more observations made not less than 48 hours apart but at least 24-hours after a normal rainfall event (less than 1" in 24 hours) or more than 48 hours after a major rainfall event (more than 1" in 24 hours). Or (4) it is necessary to remove the contents of the tank(s) at a frequency greater than once per month in order to satisfy the conditions of Parts (1), (2), or (3) above.

Hydraulic Failure – a determination by the local health department that a change in the operation, performance of routine maintenance or the replacement of treatment or dispersal components will not result in the OSS operating in a safe, adequate and proper manner within 90 days and that such performance can be sustained in the future.

Level 1 Violation – means discharge of raw, partially treated or treated sewage on the ground surface, into surface water or within a structure where the discharge is not otherwise intended or permitted.

Level 2 Violation – means the dispersal of sewage to the groundwater measured at a point of standards application for the regulated constituent where such discharge is not otherwise intended or permitted.

Level 3 Violation – means the performance or operation of a treatment or conveyance component in a manner that does not comply with an applicable standard or specification but which is not a level 1 violation or a level 2 violation. The expected response to a Level 3 condition is maintenance, repair or replacement of the component by or under the supervision of the licensed operator. *So if a system installed to meet secondary effluent limits repeatedly does not meet secondary effluent limits, and its all been repaired under the supervision of a licensed operator, it doesn't matter?*

4.2.4 Onsite sewage systems operated by a properly categorized licensed onsite operator may operate in excess of the design parameters for sewage strength and or flow on occasion as it relates to increases in occupancy for 30 days or less. In no case shall the temporary increase result in sewage on the surface or backing up into the dwelling. *This opens a really big door for the Smith Mountain lake and other recreational areas where homes are designed for standard 3 or 4 bedroom flows, but routinely house LOTS of folks over the summer. I understand the point of it, but you may need to ratchet it in just a little so that the repeated overloads such as those seen at recreational areas are not allowed.* (Vacation Rentals – issue)

Once a system has been classified as non-compliant, the health department shall take appropriate action to notify the owner and process violations in accordance with the civil penalties regulations. *I don't see how you classify it as non-compliant - outstanding Level 1, 2, or 3?*

5.0 Operation Permits *Why are permits discussed in O&M?* (revocation of permit needs added)

Operation permits shall be issued to the current property owner ~~for an indefinite period~~ *I wouldn't limit this at this point. Future ones or some may have defined periodsThis section is only dealing with O&M so I wouldn't muddy the water with permit issues.*. Operation permits for for the OSS all alternative systems shall automatically expire upon ~~sale~~ transfer of the property *This is the one that we discussed at the meeting - they need to transfer to the new owner and the new owner and old owner have to notify VDH of the change of ownership. I believe we suggested within 30 days of the sale.* (issued for the system – does it go to an owner????)

5.1 Operation permits for new alternative onsite systems require written acceptance from a properly categorized licensed onsite system operator prior to issuance. The written acceptance shall contain at a minimum the operators name, license number, classification, expiration date, address, telephone number, email address and signature.

5.2 The owner of an alternative onsite sewage system installed and issued an operation permit prior to the effective date of these regulations shall obtain a routine inspection by a licensed operator; have the OSS classified as in compliance and make an application for an alternative system operation permit before July 1, 2010.*This is going to be an administrative nightmare. How about a registration instead of an application?*

5.3 The owner of an alternative onsite sewage system with a valid alternative system operation permit shall make an application to re-issue the permit not less than 15 [15 days isn't much time to get mail back and forth - why not 30 or 60? days prior to the operation permit expiration date or the planned sale of the property. In addition to the requirements below, the owner or planned owner of the property shall provide a letter of acceptance from a properly categorized licensed onsite system operator.

5.3.1 A new operation permit shall be issued automatically when the OSS was found to be in compliance with no violations less than 90-days prior to the application date to renew or transfer an operation permit.

5.3.2 A new operation permit shall be issued automatically when the OSS was found to be in compliance with level 3 violations that have been corrected less than 90-days prior to the application to renew or transfer an operation permit.

5.3.3 When the most recent report by the licensed operator is more than 90 days old on the date of application to re-issue the operation permit for an existing OSS, a new site visit, report and finding of compliance with no violations is required.

5.3.4 A Provisional Operation Permit may be issued at the discretion of the local health department when one or more of the conditions listed above cannot be met within the time frame requested or when level 1 or level 2 violations have been identified, corrected but not yet determined to be a sustainable resolution. The conditions of the provisional operation permit shall be in the form of a consent order and subject to civil penalties for non-compliance with the order.

5.4 In cases of foreclosure, sale to a relocation company, seizure by Federal, State or Local government, law enforcement or acquisition by an entity where the existing structure and OSS are planned to be abandoned or razed, an alternative system operation permit shall not be required until the property is transferred to a new owner who intends on occupying or having the structure occupied.

The following may be performed as described in the following tables for conventional and alternative systems by a properly ~~licensed~~ permitted sewage handler, licensed operator or licensed installer without obtaining a construction permit prior to completing the task. The licensed practitioner shall provide a report on the tasks completed and enter it into the web-based system approved by the health department not more than 5 business days after the task is completed and pay a fee of $1 at the time the report is filed. All other tasks shall require a permit or other from of authorization from the health department prior to beginning work.

Conventional Onsite Sewage Systems *does the term 'conveyance line' include distribution lines? Need repair of distribution/dispersal lines, what about valves (mechanical and electric) etc) and does this table only apply to conventional systems? But it can't since it also contains pumps so table title appears to be wrong?*

	Permitted Sewage Handler	Licensed Operator C	Licensed Operator A	Licensed Installer C	Licensed Installer A
Clean Sewer Line	✓	✓	✓	✓	✓
Remove Sludge	✓				
Repair or install Tees or Effluent filters		✓	✓	✓	✓
Repair leaks around risers or pipes		✓	✓	✓	✓
Replace Floats, controls & Effluent Pumps		✓	✓	✓	✓
Re-leveling or repairing distribution boxes		✓	✓	✓	✓
Repair Sewer, Conveyance lines & force mains		✓	✓	✓	✓

Consider referencing 40 CFR 136 for analytical sampling for permit compliance for larger facilities.

VDH/VOWRA ROUGH DRAFT JANUARY 9, 2009 FOR SHADAC COMMENT
Numbering is inaccurate and incomplete.

Alternative Onsite Sewage Systems

	permitted Sewage Handler	Licensed Operator C	Licensed Operator A	Licensed Installer C	Licensed Installer A
Clean Sewer Line	✓	✓	✓	✓	✓
Remove Sludge	✓ *				
Repair or install Tees or Effluent filters			✓		✓
Repair leaks around risers or pipes			✓		✓
Replace Floats, Controls & Effluent Pumps			✓		✓
Re-leveling or repairing distribution boxes			✓		✓
Replace treatment system components			✓		✓
Replace Media					

* Tasks must be completed by a permitted sewage handler under the direction of the licensed operator or installer in responsible charge of the installation, operation or repair.

What about modifying the cycle times, increasing sludge return rates, process control testing, etc. This may be ok for little ones, but not bigger one. We should consider moving to the O&M requirements in the SCAT regs and/or VPDES regs for maintenance, reporting, monitoring, etc. for facilities >1000 gpd….

Nothing in this section shall be interpreted to require the owner of an onsite sewage system or alternative discharging system to improve or amend a system issued an operation permit prior to the effective date of these regulations except when the owner requests a change of use or capacity of an operation permit.

Other comments received:

1. Reference 40 CFR 136 EPA Sampling requirements.
2. Something should be required at settlement re operation permit
3. Get permit out of closing
4. If O & M not required for conventional systems then an inspection should be.
5. Compliance and Enforcement – How will it be tracked?
6. Is this retro active? Does it apply to systems installed prior to adoption?
7. Re 1.4.1.4 - Currently only a handful of systems have requirements in the operation permit.
8. Should vault and pit privy's be treated equally for O&M or inspections?
9. Requirements for the sewage handler and the tracking of the waste from pickup to unloading needs to be added.

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Numbering is inaccurate and incomplete.

Comments continued:

10. Issues on how real estate is sold, with implications that the home can be larger than drainfield e.g, 3 BR and Office looks like a 4 BR home. In lieu of BR's go to flow and # people.

11. What is conventional and what is alternative?

12. Need to address systems larger than 1000g/d

13. Some form of inspection should be done on all onsite systems periodically. Inspection is not the same as O or M.

14. How can homeowners be protected from bad design, construction or operation? Can the state make "no fault" insurance available?

15. Portable Toilets – what regulates them, the sewage disposed of etc.? Should they be included for maintenance of those systems? Also composting toilets and grey water systems as they all appear to be alternative. The current rules exclude boats etc. will that be continued? Why are they not included in O&M?

16. How was the two years arrived at for sampling?

17. More is needed on how, what, when and where of reporting and how fee is paid.

18. Good Start!!!!!!