

2017 Evaluation of the Effectiveness of Chapter 246-272A WAC, On-Site Sewage Systems

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Evaluating the Effectiveness of Chapter 246-272A WAC, On-Site Sewage Systems

Introduction

Chapter 246-272A WAC, On-Site Sewage Systems, regulates the location, design, installation, operation, maintenance, and monitoring of on-site sewage systems. This rule protects public health by minimizing both the potential for exposure to sewage from on-site sewage systems, and the adverse effects of discharges from on-site sewage systems on ground and surface waters.

Local health jurisdictions (LHJs) have three options to enforce Chapter 246-272A WAC. They can incorporate the chapter into local code, adopt a reference to state code into local code, or apply state code without a local code. When LHJs choose to adopt the rules, the department reviews local rules to make sure they comply with state rule. Today, 22 local boards of health have adopted their own local code, Two have adopted the rule by reference, and 11 defer to Chapter 246-272A WAC.

The Washington State Department of Health (department) is required to review the chapter every four years to evaluate the effectiveness of the rules and determine areas where revisions may be necessary. The department is also required to provide results of their review along with their recommendations to the Washington State Board of Health and local health officers. Adopted in 2005, the department completed its first evaluation in 2009 and subsequent evaluation in 2013.

The evaluation used three methods to gather feedback on the rules from partners and stakeholders:

- An online survey to solicit feedback and compare changing views from LHJs (results are listed in Appendix A).
- A meeting with the department's on-site wastewater technical advisory group (TAG) (attendees listed in Appendix B).
- A one-day discussion with a review panel of key stakeholders (review panel members listed in Appendix C) to get additional feedback on the rule's effectiveness.

In addition, an internal review was conducted, ranking feedback received; responses were summarized from each method in the respective appendices.

All LHJs were invited to participate in the survey. Ultimately, 32 of the state's 35 LHJs provided feedback. The department used feedback from the LHJs, TAG, and rule review panel combined with an internal review to develop this report.

Discussion

More than one-third of Washington's population is served by a small on-site sewage system (OSS) and nearly one million systems treat wastewater from homes and businesses. Environmental conditions, population densities, and system use varies greatly across the state. Differences in local conditions result in a range of experiences and needs. Each LHJ has a unique view of how the rule works in their jurisdiction. Chapter 246-272A WAC was written with the intent that some LHJs would need to address local conditions by adopting their own rules, while others find minimum state rules sufficient to protect public health in their jurisdiction.

Responses from the LHJ survey, as well as the TAG and rule review panel discussions, showed a wide range of opinions related to how effective the rules are at the local level. To help understand changes at the LHJ level, responses from the 2009, 2013 and 2017 surveys were compared.

Comparison of 2009, 2013 & 2017 LHJ Rule Surveys

The LHJ survey was structured around the rule’s framework of regulating OSS **design, location, installation, operation, maintenance, and monitoring**. For each OSS management element question, responders were asked to rank the extent of revision they felt was needed – major, some, slight, or no revision.

By using the same survey in 2009, 2013, and 2017, changing views of respondents were evaluated and showed an increasing interest in rule revision. When asked if minimum requirements meet the intention of the rule, 91 percent in 2009, 79 percent in 2013, and 66 percent in 2017 responded that “no” revisions were needed.

Survey questions showing the greatest change in interest centered on updating parts of the rule related to **design, maintenance, and monitoring**. This corresponds with key issues identified by the rule review panel and TAG. When comparing 2013 survey data with 2017 data in these three categories, responses that “no” revisions were needed dropped below 50 percent indicating the majority of respondents believed “slight” to “major” revisions were needed in these areas. The survey question in 2017 showing the greatest interest in rule revision was **monitoring** with 56 percent of respondents indicating “slight” to “major” revisions were needed.

While most responses indicated that “no” revisions are needed at this time in the remaining areas of **location, installation, and operation**, comments from respondents echo important issues impacting their rule implementation and need attention within each category.

Table 1. Survey Response Indicating “No” Revision Needed

	2009	2013	2017
Design	74%	55%	47%
Location	77%	64%	72%
Installation	91%	70%	78%
Operation	69%	64%	62%
Maintenance	57%	67%	47%
Monitoring	51%	58%	44%

Note: Decreasing percentages for these response categories reflect the overall increasing interest in revising the rules.

2017 Key Issues Identified

In conducting the evaluation, seven key issues impacting the implementation of the rules were identified. In addition, the evaluation identified many other important issues where changes may improve the rule's effectiveness in protecting public health (see Appendix C).

1. Definitions

Several ambiguous terms identified in the definitions section, such as “residential sewage”, “on-site sewage system”, “failure”, “expansion”, “repair”, and “surface water” need clarifying through rule revision. While broadly defined terms give LHJs flexibility to address local conditions, they have created enforcement issues and leave some areas open to different interpretations by the public and the courts.

2. Local management plans

In recent decades, regulation has evolved to embrace comprehensive management as a key strategy to help ensure proper use and care of OSS. Such efforts, in turn, help protect system performance, homeowner investment, water quality and public health. Comprehensive planning is required for development and management of OSS in Puget Sound counties. All other LHJs must develop a lesser plan.

Although the Puget Sound management plans share many common program elements, they differ significantly in how they are shaped and implemented, as well as in their effectiveness at the local level. The rule review panel expressed the need to re-evaluate management plan requirements in rule to consider such issues as minimum program standards, common performance standards, protecting sensitive areas, sustainable funding and plan updates.

3. Property transfer inspections (Time of sale inspections)

Property sales provide an opportunity for LHJs to build their inventory database, inspect systems, and verify systems are functioning as intended. The rule does not mandate property transfer inspections, but does authorize LHJs to require them as part of their OSS management plans. Eleven of the twelve Puget Sound counties require system inspections at the time of property sale while only four counties outside the Puget Sound area require these inspections. Without regulatory time of sale inspection requirements in place, some lending institutions will set their own requirements that do not necessarily let buyers know exactly what they are purchasing. Standardized OSS inspection requirements established in rule would help identify and resolve issues before title transfer, better protecting buyers from inheriting serious and expensive OSS problems.

4. Application of treatment levels

The application of treatment levels is a recurring key issue identified during the 2013 rule review (see 2013 summary of key issue). Treatment technology options have changed significantly. Treatment level requirements and corresponding soil treatment and system location requirements established in rule need to be re-evaluated. Overly conservative treatment levels for highly treated effluent may be unnecessarily increasing the complexity and cost of the OSS. As advanced treatment technologies become more commonly used to compensate for reduced soil treatment capabilities,

more robust OSS and OSS management programs are essential to reduce the risk of human and environmental exposure to wastewater contaminants.

5. Ultraviolet light (UV) disinfection effectiveness and approval

Before LHJs issue an installation permit for a proprietary treatment product using a UV disinfection unit, the product must be registered for use by the department. To qualify for product registration, performance of the UV disinfection unit is verified in a product evaluation setting under controlled conditions using the bacteriological reduction protocol in rule. While product testing requirements demonstrate UV disinfection unit treatment efficiency, they poorly demonstrate the effectiveness of UV disinfection under real-world conditions in the field. UV disinfection effectiveness is impacted by a variety of factors, including uncontrolled influent characteristics, installation, location, electrical connections, operation and maintenance, and regulatory oversight after installation. Ongoing operational problems and high maintenance costs associated with UV disinfection units have been reported, raising questions about their need for use, and whether costs outweigh the benefits of UV disinfection in the field.

As a result of reported reliability and effectiveness issues with UV disinfection units during the last rule development, the rule prohibits the use of disinfection on sites where conditions are considered sensitive and reliable product performance is critical. The unresolved issues with UV disinfection have led some LHJs to pursue waiver requests to the rule as a way to further limit the use of UV disinfection within their jurisdictions.

6. Horizontal setbacks (system location)

Horizontal setbacks refer to the distance between OSS components, such as sewage tanks or drainfields and a particular structure, land feature, waterbody, well or other sensitive feature. All three review methods identified significant setback issues between OSSs and storm water drainage systems that may become hydraulically connected with each other when the drainage capacity beneath the two systems is exceeded. The rule's storm water infiltration system requires a minimum setback of 10-feet. This does not address the potential impact of overflow and soil saturation from storm water drainage systems during high rainfall events. While significantly larger setbacks can provide added safety related to the proper functioning of OSSs, they may reduce opportunities to infiltrate storm water on site, putting surface water resources at risk due to pollutants and altered hydrology. Conversely, as OSSs compete with storm water infiltration systems for usable area on small lots, opportunities for proper on-site sewage treatment and subsurface soil dispersal may be reduced.

7. Statewide operation and maintenance (O&M) service providers licensing

While OSS owners are responsible for ensuring their system is functioning properly through periodic inspections, state rules are silent on who performs this work. Many LHJs test and certify individuals who perform inspections, monitoring and maintenance work on OSS, while other jurisdictions do not regulate this work. There

is no state standard of practice for O&M service providers nor is there a standardized exam to test provider competency. A challenge for O&M service providers working in multiple jurisdictions is tracking different local rules for inspections and reports. When local requirements vary, administrative and production costs for business owners increase, raising inspection costs for system owners as well. While the department requires owners of large on-site sewage systems to employ O&M providers approved by a LHJ, to perform operation, monitoring and maintenance activities on LOSS with design flows of 14,500 gpd or less, we have no regulatory authority to oversee their work. State standardization of licensing requirements and common inspection and data reporting requirements would improve data reporting accuracy, significantly improving trend analysis for OSS policy and decision making statewide.

2013 Outstanding Key Issues Identified

During 2013 rule review, the department identified three key issues impacting implementation of the rules where changes would improve rule effectiveness. These issues are summarized below because 2013 issue #1 links up with new issue #5 (UV disinfection effectiveness and approval) and 2013 issue #2 dovetails with new issue #4 (application of treatment levels). 2013 issue #3 (minimum land area requirements) stands on its own as an unresolved issue still needing attention in rule revision.

1. Proprietary treatment product testing requirements (linked to 2017 key issue #5)

The rule's testing protocol for proprietary treatment products requires a six month evaluation in controlled conditions at a properly accredited testing facility. Although tests evaluate and verify product performance under protocol requirements, they do not provide a good understanding of long-term product performance capability under real-world conditions. The rule does not provide allowance for testing protocols related to long-term performance of OSSs and does not require follow-up testing.

Rule making should address these issues related to treatment products, long-term field performance, and verification and correction of sub-standard performance.

2. Application of treatment levels (dovetails with 2017 key issue #4)

OSS treatment level requirements are listed in the rule to apply appropriate levels of treatment to address different site risks. These tables help match treatment components, distribution methods, and site and soil conditions to ensure adequate treatment is achieved to protect public health. The evaluation identified problems with treatment levels, soil types and conditions established in rule. The review identified a need to re-evaluate the effluent treatment requirements and corresponding soil treatment capabilities to ensure effective treatment. Since the last rule revision in 2005, additional studies on soil treatment and risk-based methods have been completed to help more accurately match treatment levels with the range of site characteristics that exist throughout the state.

3. Minimum land area requirements

The land area requirement in rule establishes a minimum lot size of 12,500 square feet per single family home for developments with public water supplies. As written, it is unclear whether the minimum lot size must be applied to developments with community off-site drainfields or if it should be applied strictly to drainfields located on the same lots where the sewage is generated.

A second land area requirement needing clarification is the rule allowing the local health officer to permit installation of an on-site sewage system where minimum land area requirements or lot sizes cannot be met. A proposed development may meet criteria in rule for the local health officer to permit installation of an OSS on a legal lot of record substantially smaller than the minimum 12,500 square lot size. The problem arises when the land area for the development is insufficient to minimize public health effects or risks from the accumulation of contaminants in surface or ground water. Local health officers identified the lack of clarity for what is allowed as a problem because of the confusion created by not having a clear minimum lot size requirement.

Conclusions and Recommendations

Evaluation of Chapter 246-272A WAC identified issues warranting attention through the formal rule-making process. The majority of LHJ survey respondents believed “slight” to “major” revisions are needed in the areas of system design, maintenance, and monitoring requirements. Based on comments received and the department’s internal review, seven key issues significant enough to necessitate rule revision were identified. In addition to the seven key issues, the evaluation identified other important issues where changes may improve the rule’s effectiveness in protecting public health.

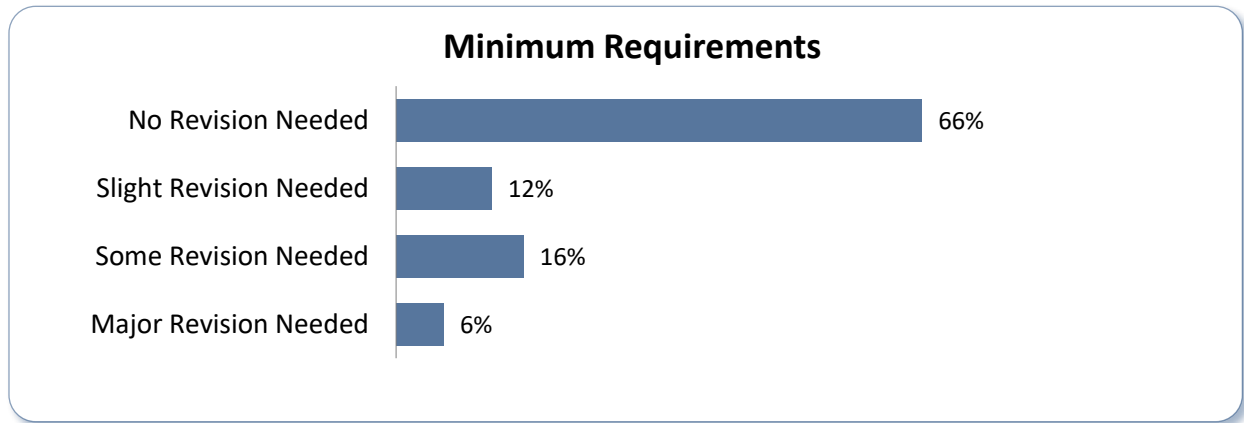
We recommend initiating rule making as soon as possible.

Based on the number of areas where rule changes will be helpful or needed, the cost and benefit of a comprehensive update versus a more targeted effort would be weighed before beginning the project.

Appendix A – Local Health Jurisdiction Survey Responses

Thirty two of the state’s 35 LHJs responded to the survey. For each question, responders were asked to rank the amount of revision they felt was needed in the rule to adequately address the given task, from “no revision needed” to “major revision needed”. Below each question is a graph summarizing the responses for that question. Individual comments are listed below each graph.

Question: Do the minimum requirements meet the intention of the rule?



The minimum requirements are fine. My major concerns with the WAC 246-272A are with how it is put together. The information could be presented a little better which would make things easier to find.

The rule laws a baseline that provides adequate statewide protections with local having the ability to be more stringent where appropriate.

The minimum requirements lead to highly complex and maintenance intensive systems being installed. Without robust M&M programs (which all counties struggle to establish or fund) we are building systems that will not receive the proper maintenance and/or have long term reliability problems.

See below responses and comments.

Generally speaking - yes, the minimum requirements meet the intent. However, numerous areas within the rule would greatly benefit from additional clarity to ensure consistent application.

1. The RS&Gs need to be more strongly incorporated. Our county considers them as code and has for a while, it works fine.

Minimum application expiration. -Definition of a "bedroom". -Definition of "surface water" needs clarification on what constitutes 'significant periods of the year'.

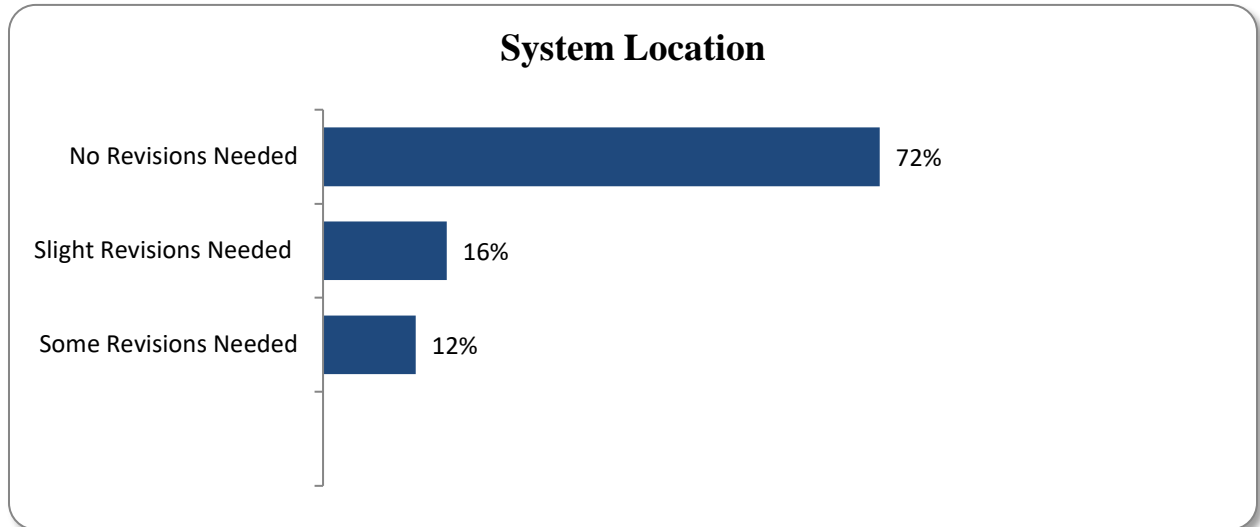
Please see comments in the design section.

Additional detail is needed regarding the establishment of special areas like Marine Recovery Areas and O&M requirements within those areas. Currently there are a variety of approaches used in WA and the Puget Sound area. All seem to be allowed by the current WAC, yet the efficacy of these various approaches is different. While local policy makers and LHJs need some latitude to design and implement programs that work for their jurisdiction, the WAC, or perhaps the referenced guidance document, should provide more detail on programs that likely to be effective. I realize that providing too much specificity is unlikely won't be acceptable, and that a significant factor in all of this is adequate program funding, which the WAC cannot really address.

See comments below.

Would like to see more regarding nitrates, especially with proposed subdivisions. Would like to see the treatment levels revised to recognize that soil after pretreatment provides bacteria reduction. Revision of the subdivision section regarding small lot sizes and community systems, and their management.

Question: Do the rules effectively regulate the system location?



There is confusion around the 100 foot sanitary zone: "Where a subdivision with individual wells is proposed: (i) configure each lot to allow a 100 foot radius water supply protection zone to fit within the lot lines" This indicates that the well sanitary zone must fit within the lot lines, but I am told that is just to maintain the 100 foot setback from well to drainfield, so what is implied and what is said is different.

Please add clarification to the rule to identify a Table IX Repair is only an option available installation of a conforming system is not possible. We often are in an around and around discussion with designers who attempt to pursue a Table IX repair instead of pursue established Class A waivers available to allow for the installation of a conforming system. Please clarify if there are criteria associated with a reducing a well setback to 75 -- this option has been exercised based on property aesthetics and not site complications.

Need clarification on WAC 246-272A-0210 (3): If the minimum horizontal separation to these features is two feet (when they are up-gradient), should it be listed as such in Table IV? Does this allowance require a variance? Clarification on how gradient is to be determined? Table IV Add potable to water supply line setback.

WAC 246-272A-0210(3)- Is there a public health significance between a 5' and 2' setback?

1. The reduction to a 75 foot setback from the well, that is in code, is not very clearly defined.

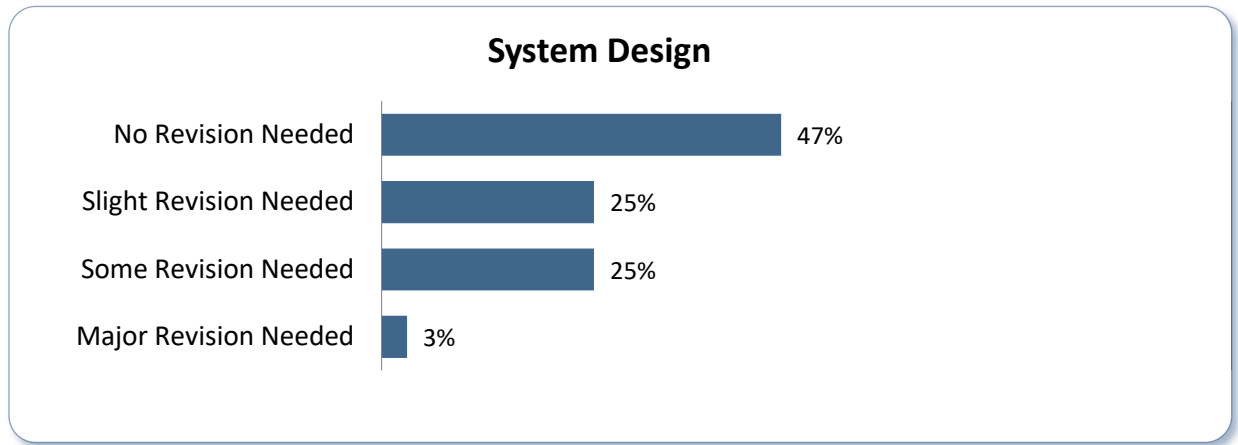
-Definition of surface water as used in Table IV. -Setback to Adjacent soil dispersal components when down-gradient. -(4) (a) Adequate protective site-specific conditions, such as physical settings with low hydro-geologic susceptibility from contaminant filtration. This is also referenced in the Waivers RS&G. Clarification on conditions that designers can validate vs. hydrogeologists. -Table IV Pressurized Water Supply Line 10 feet from building sewer. The Health Officer may approve a sewer transport line within ten feet of a water supply line if the sewer line is constructed in accordance with section C1-9 of the Department of Ecology's Criteria for Sewage Works Design, December 1998. o C1-9 of the Department of Ecology's Criteria for Sewage Works Design, December 1998: Is a poorly written document that is confusing to designers, installers, and LHJs. The mitigation measures need to be clearly written and included as part of 246-272A. o This setback is somewhat trivial as soon as my lines enter the foundation I know longer have any setback issues as water and sewer transport lines can be adjacent to each other inside the foundation wall. Perhaps we can eliminate or reduce this setback.

Language specific to repairs installation location could be expanded on. Giving LHJ the authority to put a conforming system in when lot size and options for a conforming OSS is impossible based on the WAC. For sites with multiple replacement systems on site - could expand on options.

Distance between trenches if reserve DF is located between primary setbacks from irrigation lines to drainfield?

Better definition of cut banks, especially those that cut through restrictive layers. Maybe more thought about storm water systems and associated setbacks.

Question: Do the rules effectively regulate the system design?



I am not a big fan of the reductions allowed with infiltrator systems. I have seen quite a few failed systems that were allowed under maximum reductions.

See comment for question 1. The design criteria results in systems that are overly complex, unreliable, and costly to maintain and/or monitor.

Consider adhering counties bordering the Columbia River to the same requirements of the 12 Puget Sound counties. Consider adhering counties bordering the Pacific Ocean to the same requirements of the 12 Puget Sound counties. Please provide a formal guidance document to assist with 246-272A-0320 (P) estimate nitrogen loading, or remove the requirement from the section. Does the passing of House Bill 1503 necessitate the need to modify WAC 246-272A-0025? Suggest section -0230 further restrict resident design to only conventional systems. Research and determine if standard 2-compartment OSS tank followed by 12" of sand and 12" of vertical separation meets treatment level C criteria (recognize this is a better consideration for RS&G updates).

Depth of system clarify where measurement is taken uphill side, downhill side, or middle of trench. Consider statement that construction standards not specified in regulation shall be established by the licensed design professional. Consider removing bedroom references in design requirements for single family residences. Bedroom is difficult to define and enforce. Design flow should be based on anticipated use. Owner is responsible to ensure that sewage flow is at or below the approved operating capacity.

There are no pump tank requirements in the WAC, it's all in guidance. Having all design standards for mounds, ISF's, LPD's etc. in guidance is sometimes problematic from a regulatory standpoint.

1. a. Systems should only be designed by licensed designers/engineers not by homeowners. b. Demand dosing should only be allowed for pump to gravity or siphon systems. c. The requirement for 2 test holes is largely insufficient to adequately describe the soil geography.

246-272A-0230 (2) (e) (i) (A) - The OSS is designed to address sewage quality as follows, for all systems the designer shall consider: CBOD5, TSS, and O&G. 246-272A needs to clearly define the values for CBOD5, TSS, and O&G (residential vs. high strength waste). Currently LHJs and designers do not have a clearly defined definition of what constitutes high strength waste. It is referenced within RS&Gs but should be clearly defined within 246-272A. - Pump Chamber Size A section on how to properly size a pump chamber is needed.

1. Need to re-visit the number of systems and treatment levels reliant on UV. We all know that UV is unreliable, the electrical issues are not user-friendly, and maintenance is beyond the scope of single-family residences and are costly to install and replace. 2. The rules need to allow more flexibility for larger-sized lots relative to vertical separation and treatment levels. LHJ's need to have more say in granting waivers based on public health risks and local conditions without the consent of DOH. If DOH waivers are predicated on securing O&M contracts the system will not work. The contracts, according to most of the O&M providers we speak with are simply paper. Most people do not want the O&M folks looking at their systems and even when they do, they do not want to spend the money on repairs (see UV comments-bulbs are not being replaced, people have figured out how to de-fuse the alarms). 3. The treatment level requirements do not account for the long-term effectiveness of the higher technology components vs. standard PD systems. Our experience is that PD's with timers and larger surge capacity pump tanks work great for long periods of time with little to no maintenance. We are strong advocates for PD systems over ATU's, Glendons, and most of the other proprietary systems based on repairs, and even on sites that may have short-term seasonal water tables. We suspect that PD systems are protective of public health on sites without 24" of vertical separation for small parts of the year, especially for larger lots no adjacent to wells or bodies of water. Based on the reliability issues with higher treatment systems, they are likely acting like PD systems with much more cost and complexity. We would like DOH to consider all of these issues for sites that are not public health risks. 4. We would like DOH to re-consider testing protocols for proprietary systems. That is, new systems should be tested in real time situations throughout the state for X number of sites for a year or so with rigorous testing before unleashing them. There are too many functional problems with newer technologies. Unfortunately, these problems are not being reflected on routine O&M reports. There is a very large gap between what we hear from the industry anecdotally vs. what we are seeing on the reports on online RME. There is also a fair amount of cook-booking on these reports to satisfy clients, to smooth home sales, and to get through required reporting to LHJ's in general. There are a lot of problems with complex systems that are under-reported.

For food service establishments, there should be additional recommendations for testing requirements. For example, waste strength parameters should be listed. In WAC or in a RS&G; for example, including Table III in the WAC in addition to the testing section on page 26.

Call me or email me

Loading rates should be addressed so they reference and conform to EPA guidance

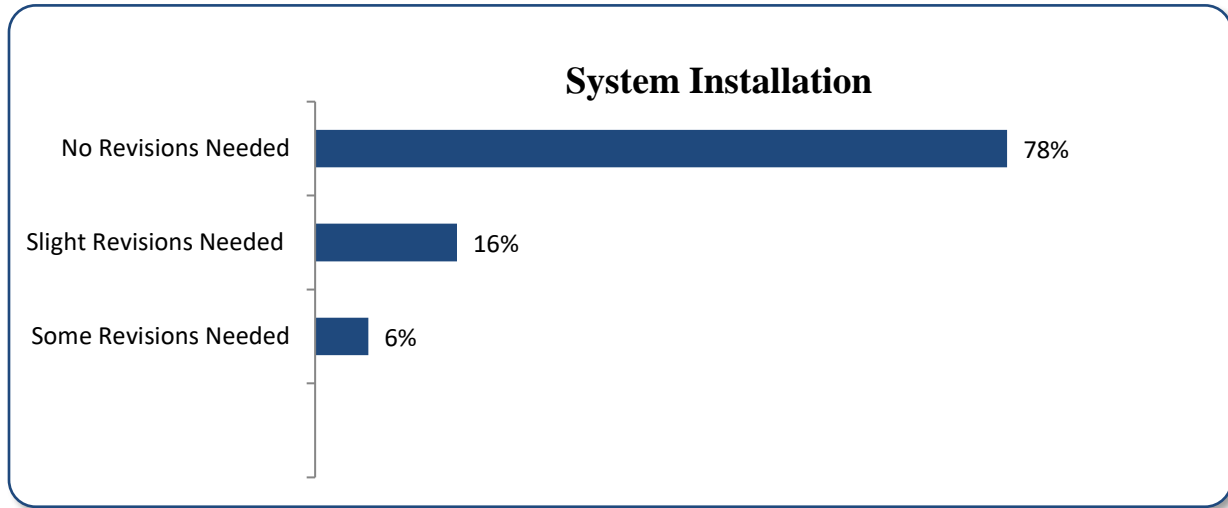
Define "special conditions" in 0234 (3) (a) somehow incorporate the Dept. of licensing's "guidelines for the professional..." think of subsection 7.5 in the document. Actually release Method II guidelines.

I would prefer that more flexibility be built into selected portions of the regulation. Specifically when dealing with the issue of the timer mandate for pressurized systems (change to "timers may be required" would be preferred)

Rule can be updated to better correspond to new technologies such as sub surface drip and the Loweflow systems. WAC could also better define what Critical Area include, such as Indian artifact areas. Also, WAC 246-272A-0230 Table VI, allows for treatment level C - pressure, but does not specify timed dosing. However a sand lined trench with 1' of sand meets treatment level C, and the RS&G make it sound like timed dosing is required.

A bit more about drainfield reductions with certain types of pretreatment. This isn't the WAC but would like to see RS&G's regarding at grade systems, drip mounds.

Question: Do the rules effectively regulate the system installation?



Suggest section -0250 further restrict resident installation to only conventional systems.

As written, the WAC leaves the actual installation process up to the installer and the design professional. A compliant installation is dependent on a competent installer and design professional.

1) The state should not allow homeowner installation of OSS under Table IX repair 2) The State should not allow homeowner installation of OSS. 3) The state should require professional O&M contracts when Table IX repair are installed 5) All OSS should be inspected prior to final cover. The one visit at any time during the process policy, is ineffective at ensuring public health is protected. 4) The state should also consider requiring safety netting to prevent accidental drownings in septic tanks and pump chambers.

Example: positive dye test on 5-yr old system. Passed O&M inspection. LHJ couldn't find issues after several site visits. Homeowner install, transport line covered prior to final inspection; possibly perforated transport line?

-0265 Record Drawings. (1)(c) Any other OSS component or site feature which, (primarily water lines that crossed, rerouted, or close to setbacks).

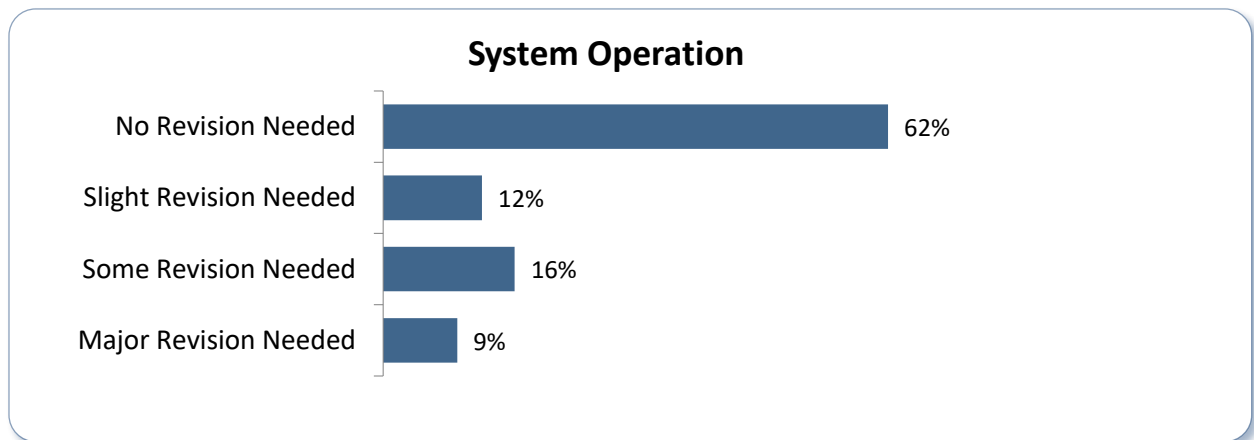
Tank test holes and water tightness after install would be welcome additions.

What happens when primary drainfield is compromised during construction?

Leaving the details to the local health departments is good.

As most systems are designed problems are somewhat eliminated if the installer follows the approved plans.

Question: Do the rules effectively regulate the system operation?



Operation and maintenance in the current rule is left in the hands of the homeowner with no checks and balances if a local O&M program are not adopted. Perhaps there are some O&M oversight that can be placed on the rule without requiring a full local O&M program, such as requiring an inspection and pumping at the time of a real estate transaction

Most LHJs have difficulty in ensuring that systems are being properly operated, maintained, and/or monitored. This is primarily due to lack of capacity and funding resources. Most LHJs have not been able to establish a stable funding source for these activities due to a variety of reasons. The more complicated and maintenance intensive systems we design and install only further exacerbates this issue. In addition, the proprietary device approval process does not necessarily lead to systems that have long term reliability.

Rule does not mandate sufficient O&M statewide for a performance-based regulation, but is adequate for a prescriptive regulation.

There are inconsistencies between the WAC & various RS&G's. Annual monitoring for any system seems to be an unrealistic expectation.

246-272A-0270(d)(ii) should be "Conventional pressure distribution every 3 years, conventional gravity should be every 5 years"

1) The State should provide funding to LHJs for robust O&M programs 2) The State should develop standardized forms for the implementation of a robust O&M program) 3) The state should stop differentiating between the Puget Sound Counties with regards to shoreline and water quality impacts from failing septic systems. The state should instead differentiate the west side of the state from the east side since the entire west side has seasonal high water

tables and sensitive shoreline areas 4) There needs to be specific exclusion requirements for livestock i.e. fencing required

- Report evaluation, maintenance, repair, pump reports as required by the LHJ. - (1)(d)(i) At least once every three years for all systems consisting solely of a septic tank and gravity SSAS, unless more inspections are specific by the local health officer; (necessary for systems that are often older and unpermitted, that do not meet the definition of a failure, but are functioning inadequately and need to be evaluated again in the wet season and definitely before 3 years. – Minimum evaluation requirements for OSS that serve more than one development (community OSS)- for example: individual components shall not be evaluated independently; all OSS components of the system must be evaluated at same time. - (1)(k) At the time of property transfer, provide to the buyer, a current evaluation report,

1. Systems that are not public domain are way too complicated for the typical owner to maintain so they don't. There are too many unscrupulous industry folks that take advantage of this system by charging clients for work they don't do or do unnecessarily and owners are not aware of this due to system complexity.

For food service establishments, there should be additional recommendations for testing requirements. For example, waste strength parameters should be listed. In WAC or in a RS&G; for example, including Table III in the WAC in addition to the testing section on page 26.

Sufficient for simple systems, not so much higher treatment level systems.

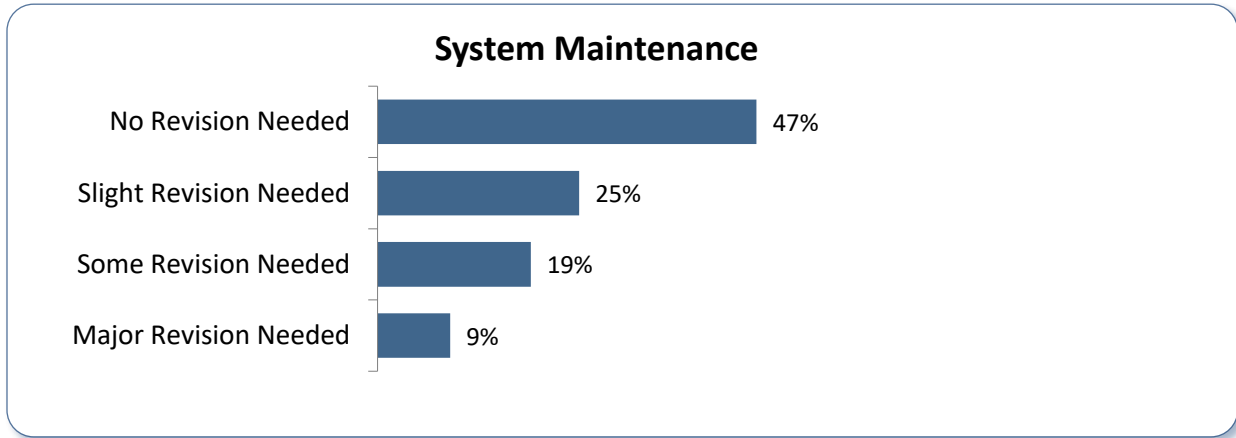
Revisions needed regarding special areas and MRAs and noted in Q1.

Owner responsibility, local program development.

I think more detailed O&M requirements would be helpful.

See below

Question: Do the rules effectively regulate the system maintenance?



See answer to question 5.

Add RCW 70.118A16 definition of unsafe systems to the WAC and update section -270 to accommodate.

Rule does not mandate sufficient O&M statewide for a performance-based regulation, but is adequate for a prescriptive regulation.

See #5

Very passive on who can maintain OSS, needs some clarification

1) The State should provide funding to LHJs for robust O&M programs. The State should develop standardized forms for the implementation of a robust O&M program 2) Better definition is needed around what requires a permit to repair and what doesn't. Also better definition around who can do those repairs, like for instance on a commercial system

See comments for #5.

1. Same basic comments, if system are so complicated that they need routine maintenance every 6 months, they probably shouldn't be approved for single-family residences. We think that the dirty little secret about the ineffectiveness of UV should tell us something; that ATU's with UV are just better aerated PD systems.

Sufficient for simple systems, not so much higher treatment level systems.

See above regarding special areas.

There have been a couple of cases of people falling through risers. Is there a maintenance or engineer fix to prevent people from falling through risers?

Any help to the local departments in developing their O&M programs and funding mechanisms would be great, don't know exactly what that looks like.

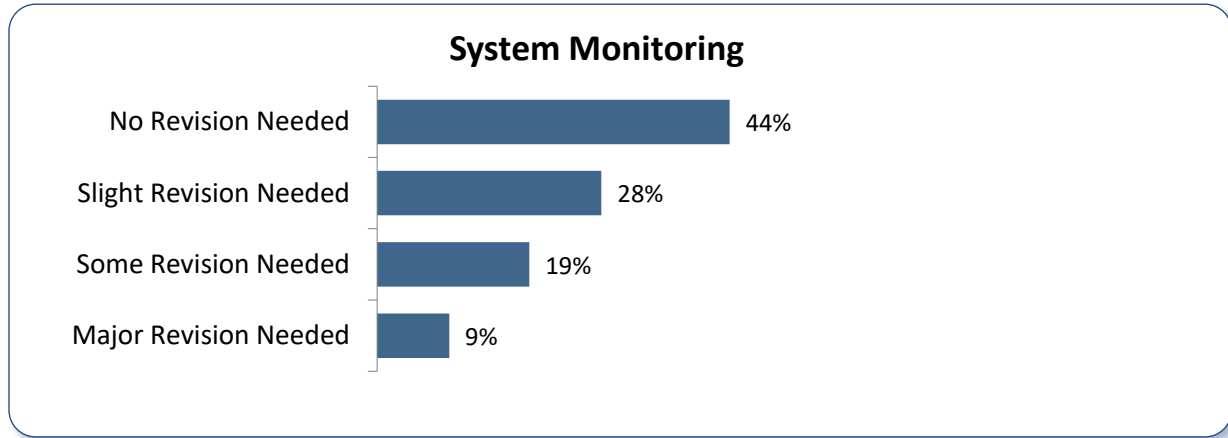
Maintenance service providers play an extremely large role in keeping our waterways free of effluent, yet they have the least amount of training and licensing requirements. The crucial work of keeping systems operating properly should be given the utmost priority by the state.

I think more detailed O&M requirements would be helpful.

Smaller counties with very limited staff will struggle with enforcement of any O& program due to the lack of staffing

LHJs that do not have an O&M plan or staff to implement monitoring are out of compliance. Should the state provide O&M monitoring for small LHJs not meeting 0270.

Question: Do the rules effectively regulate the system monitoring?



The rule places the responsibility on the system owner to monitor unless a local has an O&M program. I think this is adequate because local scan be more stringent if they have the need for O&M

See answer to question 5.

Suggest OSS with lift pumps to gravity SSAS be extended to an inspection every 2 or 3 years instead of every one if the LHJ has an adequate O&M program.

Rule does not mandate sufficient O&M statewide for a performance-based regulation, but is adequate for a prescriptive regulation.

See #5

Completely falls on the locals

1) The State should provide funding to LHJs for robust O&M programs. 2) The State should develop standardized forms for the implementation of a robust O&M program 3) The requirement should be for O&M to be done by a professional at least every other time it is required. 3 years for a gravity is too long. a. Requirement for professional O&M on proprietary treatment systems should be included in the code not the RS&G. b. The requirement for yearly inspection of food establishments needs serious consideration. The way it is written is that the County has to inspect where it makes more sense to just require a professional O&M done annual

The O&M inspection frequency requirement is onerous and likely unnecessary. Suggest 3 yr for non-gravity and 5 yr for gravity.

See comments for #5.

Same comments.

Sufficient for simple systems, not so much higher treatment level systems.

Maybe devise a standard "Pumper Report Form" - so that customers can get specific, helpful feedback on condition of at least the tank- from the pumper - instead of "slurp & burp". Or worse yet, "System is toast and whole drainfield needs to be replaced"! I really got this comment on a pumper report/receipt to a client with no explanations nor findings provided to support such diagnosis. I've seen at least two pumper/installer teams do this to attempt to get owner to pay for a new OSS - when there turned out to be no reason for a replacement OSS.

See above regarding special areas.

Parameters for monitoring ports

Sure would be nice to require time-of-sale inspections of the system. Money could be put in escrow to fix system so nobody's looking for a loan.

Any help to the local departments in developing their O&M programs and funding mechanisms would be great, don't know exactly what that looks like.

See #7, and We need a prescriptive inspection standard to ensure homeowners are getting what they pay for EVERY time, EVERY location.

See above

For LHJs that do not have O&M staff, can the individuals report to DOH instead of health officer. The concern is that the rule requires steps that our program is not implementing or has capacity to implement.

Question: Are there areas in the rule that need to be improved during the next rule revision process?

Note: this question was not ranked; we requested written feedback only.

The requirement for OSS regulators to take the OSS design exam is ridiculous. In its current state the OSS exam is completely worthless as a metric to determine if someone is capable of designing or regulating septic systems. The vast majority of the questions are not even straight forward or represent what happens in the real world. Every regulator in the state of Washington that I have talked to thinks it is a joke. I can't think of a bigger waste of time and money that I have dealt with since I started my environmental health career.

Reduction in treatment standard requirements for reduced vertical separation sites. A better feedback system for the DOH

Annual product report. Requirements for LHJs to establish fees to fund monitoring and maintenance of systems.

Yes. See all of the above comments for our suggestions.

Consider requirements for portable toilets that are allowed for permanent or long-term use at a site. Definitions for new installation, modification Definition for drainage and/or surface drainage depending on the use in the WAC. Suggested verbiage: natural and/or man-made topographic depression, canal, ditch or other conveyance that collects surface run off and directs it onto or away from an area. May also need a definition for surface run-off to differentiate this from surface water. Consider changing WAC 246-272A-0250(3)(h) from prevent surface water to prevent surface drainage (or surface run-off). Definition for undisturbed soil. Consider including allowance to install system into disturbed soil if it is determined that it will not impact performance. Clarify what constitutes a failure with regard to the requirement to install a conforming system or connect to public sewer (if available). Example broken building sewer line. In the event of a "failure", clarify that only the failed component is required to be replaced (if that is the intent), not the entire system. Address remediation of a failed system: What is allowed? when is remediation allowed instead of replacement? when is a permit required? Consider RS&G document. Soil Textural Classifications remove subjective references to structure (medium, strong, massive). Remove allowance for % rock fragments under Soil Type 1.

While I point out areas that could be improved the issues may not rise to the level of warranting a rule revision process.

Yes, get rid of the section on additives. It is a huge problem. State is very passive on this issue.

1) There needs to be better language around connecting/reconnecting to an existing system with a new residence. a. A professional O&M should be required at time of property transfer b. Licensing of professionals needs to be better defined. e.g. 3 groups, installer, pumper, O&M provider; authorities for discipline and revocation; Knowledge requirements for each group 2) WAC 246-272A-0025 The State should provide funding for OSS owners forced to connect to public sewer systems. The State should also act as an intermediary between the OSS homeowner and the operator of the public sewer system in an effort to provide quick and easy reconciliation. Section 2(a) should be more clear in defining the distance parameters e.g. replace residence with property line of residence.

PTPs - O*M requirements; certified O*M providers should have the ability to inspect PTPs -- appropriate training needs to be available and required for O&M providers to inspect PTPs.

Yes.

1. Orifice spacing: is equal distribution achieved with 5-6 foot orifice spacing? 2. The code should address minimum trench spacing. 3. Require rather than recommend time dosing for PD. 4 Require rather than recommend pre-treatment for SDS. 5. Better define conforming vs. non-conforming repairs. If a repair/replacement meets minimum horizontal and vertical requirements but is limited for sizing and/or reserve area due to lot constraints, would we still allow a gravity system? 6. Specify minimum dripline spacing on steep slopes. For some repair scenarios, we have to install drip lines on quite steep slopes, the code should address these situations. 7. Minimum lot sizes relative to subdivisions: most building departments require on site infiltration for impervious surfaces. Do 12,500 and 15,000 square-foot lots have the size for house, OSS and 100% reserve, and infiltration without compromising setback requirements?

1. In the Repair Section, include the definition of a failure, other than just the glossary/terms, and state it's the owner's responsibility to repair the failure. 2. Include Table III in the WAC rule, in addition to the testing section.

OSS vs. LOSS and "Flow-Splitting" when it comes to "phased" projects - in particular- farm worker housing. Isn't the impact of several OSS's the same as a LOSS? Further, the H2A housing is inspected & permitted under DOH. Would it make sense to call several OSS's as LOSS - and then have that monitoring & oversight by DOH. The DOH inspection form has a box for housing inspector to approve the OSS/LOSS. I've never had an inspector contact me for the OSS info at the housing. So I don't how they are able to evaluate. We are a small county without capacity to have full O&M program and county system monitoring. I think this is where DOH oversight of worker housing OSS/LOSS would be efficient and helpful for the farmworker housing program. Just some thoughts.

See above regarding special areas and O&M.

Dealing party houses/excessively large homes

If the rule could have provisions for enforcement activities (possibly with allocations for funding) for properties connected to water with structures without permitted septics, that would solve a lot of problems.

Certain parts of the WAC designate discretion to LHJ - for example, number test pits needed for land division per lot – is 100% up to the LHJ to determine. It is my understanding that other parts of the code leave room for some discretion to the LHJ - even in parts where it is not stated as such. It would be nice if this was explicitly stated in the applicable sections – or a blanket statement about LHJ's having the authority in their county to determine what is conforming, what is not, and the authority to grant waivers or make allowances based on the local environment.

If there was a definition of a community septic system in the state on-site regulations, we would appreciate it.

Yes. WAC 246-272A-0320 (2) concerning well protection zones. It should define what is, and is not, allowed within a well protection zone. Is it meant for OSS only, or other potential sources of contamination such as found in the well siting section of WAC 173-160-171?

Two major things I would like are revising the subdivision section as discussed above and lessening the requirements for disinfection for certain site conditions and pretreatment devices.

Certainly. Definitions for 'expansion', 'new construction', 'replacement structure', 'bedroom' are all lacking in clarity, making portions of the rule difficult or impossible to enforce. Minimum land area and Class A Waivers needs clarification and some re-calibration. There are multiple areas within our rule which do not accurately reflect our current technological environment. UV disinfection is a built-in maintenance nightmare.

Anything that can be done to help deter poor quality designs from designers.

Appendix B – Technical Advisory Group

The On-site Sewage System Technical Advisory Group met for one day to evaluate the rules and make recommendations for rule revision to address identified technical issues with chapter 246-272A WAC.

2017 Technical Advisory Group Members

Facilitator – Leslie Turner, Department of Health

Eric Knopf, Designers, Installers, and O&M Providers

Dave Hilton, Eastern WA Local Health Jurisdiction

David Jensen, P.E., Private Engineering Firm

Bob Monetta, WA State Association of Realtors

Justin Hartmann, Certified Professional Soil Scientist

Alex Paysee, sitting in for Cindy Waite, Western WA Local Health Field Staff

Chris Plager, Eastern WA Local Health Field Staff

John Wolpers, Western WA Local Health Jurisdiction – not present

Table 1: Summary of Technical Advisory Group Technical Discussion Topics and Rankings

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74							
		Group Recommendation					
Topic #	Issue Description	Avg Score	Overall Ranking	Ranking Counts			
				H	M	L	N
1	What should the setback and vertical separation be to geothermal unit/loop – with/without backflow prevention	1.43	L	0	3	4	0
2	Should there be an increase in minimum setback to utility easement (due to possible water line) to 10 feet	0.29	N	0	1	0	6
3	What should the setback to heat-exchanger, open-loop return line with perf pipe (do not use generic “other site features that may allow effluent to surface.”)	0.14	N	0	0	1	6
4	Setback to water storage tank	1.43	L	1	1	5	0

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

		Group Recommendation					
Topic #	Issue Description	Avg Score	Overall Ranking	Ranking Counts			
				H	M	L	N
5	Setback to ponds and ditches, lined and unlined - changed from original question	1.71	M	0	5	2	0
6	Setback to suction line	1.00	L	0	0	6	0
7	Should we state that the bottom of trench/bed must be level (+/- 0.5 inches)	1.57	M	0	4	3	0
8	Why should trenches/laterals must run parallel to natural ground contours	0.29	N	0	1	0	6
9	Elaborate on "secure" tank riser lids	2.75	H	7	0	1	0
10	Specify setbacks between active drainfields -clarified- to mean separation between trenches	0.38	N	1	0	0	7
11	How should transfer lines be bedded	0.63	N	0	0	5	3
12	Should language regarding minimum fall in sewer line to tank [see UPC] be added	0.25	N	0	1	0	7
13	Is there a better way to describe drainage areas (meaning land formations)	1.38	M	1	1	6	0

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

		Group Recommendation					
Topic #	Issue Description	Avg Score	Overall Ranking	Ranking Counts			
				H	M	L	N
14	More detail for the definition for floodplain vs. floodway	1.00	L				
				0	0	8	0
15	A better definition of surface water	0.75	L	H	M	L	N
				1	1	1	5
16	More detail in the definition of – residential vs. non-residential waste strength	1.38	L	H	M	L	N
				1	1	6	0
17	More detail in the definition of industrial waste	0.25	N	H	M	L	N
				0	1	0	7
18	More detail in the definition of excessive daily use	2.00	M	H	M	L	N
				2	4	2	0
19	Should there be a definition of seasonal, recreational dwelling and address daily flow rates	0.25	N	H	M	L	N
				0	1	0	7
20	What is a definition for blackwater	1.13	L	H	M	L	N
				0	1	7	0
21	What is a definition for grease traps	1.13	L	H	M	L	N
				0	2	5	1
22	Is there need for a separate definition of farm worker housing, and associated daily flow rates	0.38	N	H	M	L	N
				1	0	0	7

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

		Group Recommendation					
Topic #	Issue Description	Avg Score	Overall Ranking	Ranking Counts			
				H	M	L	N
23	Is it necessary to revisit definition of cover soil to clearly include idea that sand has no organic matter and doesn't promote plant growth	0.25	N	0	1	0	7
24	Should there be specific language regarding sewage and other types of waste as prohibited [WAC 246-271-0020]	2.50	H	4	4	0	0
25	Regarding -0230, Method 1 and Table X: should there be better, clearer language comparing SFR minimum lot size and minimum land area per unit volume of sewage	1.50	M	0	3	3	0
26	What does "adjacent" to marine installations mean - 0250(2)	1.20	L	0	1	4	0
27	Address treatment for nutrient loading	1.00	L	0	1	0	1
28	Revise Table IX (see Leslie's notes) * Why is Table IX less stringent than Table VI? 50 – less than 100 feet Horizontal Sep with vertical separation equal to or greater than 18 inches to less than 24 inches TLC Table VI: TLB pressure with TD – meeting full horizontal setbacks and same VS	1.63	M	0	5	3	0
29	Should the 900 gallon min septic tank size be changed to 1000 gallons	2.14	M	3	2	2	0
30		0.25	N				

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

		Group Recommendation					
Topic #	Issue Description	Avg Score	Overall Ranking	Ranking Counts			
	Should other wastes be included such as – animal feces, plant growing waste, other agricultural type waste			0	1	0	7
31	Should UVD be eliminated as a means to achieve treatment levels (???) More discussion available on this after the study	2.43	H	H	M	L	N
				4	2	1	0
32	How should Tiny Houses be addressed	0.25	N	H	M	L	N
				0	1	0	7
33	Should Drainfield definition be improved due to setback between trenches issues (E.G. other dispersal UNITS)	0.25	N	H	M	L	N
				0	1	0	7
34	Definition of Low flow waste	1.00	L	H	M	L	N
				0	0	7	0
35	Need a grease trap RS&G	1.80	M	H	M	L	N
				1	2	2	0

Appendix C – On-site Rule Review Panel

The panel met for one day with the purpose of gathering information on the need, clarity, effectiveness of the rule, and consistency with other agency rules. Panel members and recommendations are outlined in the tables below.

2017 On-site Rule Review Panel Members

Facilitator: Stuart Glasoe – State Board of Department of Health

Cindy Alia, Homeowners / Citizens

Rick Dawson, Local Health Jurisdiction - (Eastside-Urban)

Bill Dewey, Shellfish Industry

Bryson Finch, Department of Ecology

Jerrold Hoeth, On-site Sewage System Installer

Betsy Howe, Homeowners / Citizens

JR Inman, O&M Service Providers

Dave Jensen, Private Engineering Firm

Tim Johnson, Washington On-Site Sewage Association

John Kiess, Local Health Jurisdiction - (Westside-Urban)

Heather Kortuem, Local Health Jurisdiction - (Westside-Rural)

Dave Lowe, Proprietary Products At-Large

Doug McMurtrie, Tulalip Tribe

Bob Monetta, WA Association of Realtors (not present)

Laurie Morgan, Department of Ecology

Doug Peters, National Estuary Program

Todd Phillips, Local Health Directors - (Eastside-Rural) (not present)

Chris Skidmore, Local Health Jurisdiction - (Eastside-Rural)

Jerry Stonebridge, On-site Sewage Industry At-Large

Bruce Wishart, Environmental Groups

Table 1: Summary of On-Site Rule Review Panel Discussion Topics and Rankings

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74								
			Group Recommendation					
#	WAC 246-272A	Agenda Title	Avg Score	Overall Ranking	Ranking Counts			
Purpose and Administration					H	M	L	N
1	-0010	Definitions; broadly defined terms creating enforcement issues	2.33	H	10	8	3	0
2	-0015(1)(b) and (5)	Local management plans	2.52	H	H	M	L	N

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

			Group Recommendation					
#	WAC 246-272A	Agenda Title	Avg Score	Overall Ranking	Ranking Counts			
					14	5	1	1
3	-0015(7)(d)	Property transfer inspections	2.29	H	H	M	L	N
					11	5	5	0
General Requirements					H	M	L	N
4	-0020(1)(a)	Flow splitting of LOSS into multiple OSS	1.29	L	4	3	9	5
5	-0025	Connection to public sewer	1.90	M	H	M	L	N
					8	5	6	2
Sewage Products and Technologies and Specific Requirements					H	M	L	N
6	-0110, -0230, -0280	Tables III, IV, and IX: Treatment levels and application	2.29	H	13	2	5	1
Sewage Products and Technologies					H	M	L	N
7	-0120 (6) & -0145(6)	Proprietary Product Registration; field assessment information effectiveness	2.14	M	11	3	6	1
8	-0130(2)(c),(d) & (g)	Bacteriological reduction performance testing	1.86	M	H	M	L	N
					6	7	7	1
9	-0130	UV disinfection; effectiveness and approval	2.29	H	H	M	L	N
					12	3	6	0
10	-0140(3)(b)	Proprietary gravelless distribution product registration	1.76	M	H	M	L	N
					7	5	6	3
Specific Requirements					H	M	L	N
11	-0210	Minimum horizontal separations with new treatment technologies	1.81	M	8	4	6	3
12	-0210(1) Table IV	Setbacks between OSS elements and storm water infiltrations systems	2.29	H	H	M	L	N
					11	6	3	1
13	-0220(2)	Soil logs number	1.48	L	H	M	L	N
					4	6	7	4
14	-0230	Absence of standards for pump chamber sizing	1.48	L	H	M	L	N
					5	5	6	5
15	-0230 (2)(e)(i)(D)	Nitrogen reduction; absence of standards to be met or methods to be used	2.19	M	H	M	L	N
					10	6	4	1
16	-0232	Septic tank sizing with low flow fixtures	1.90	M	H	M	L	N
					10	3	4	4
17	-0234(1) Table VIII	Loading rates	1.90	M	H	M	L	N

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

			Group Recommendation					
#	WAC 246-272A	Agenda Title	Avg Score	Overall Ranking	Ranking Counts			
					8	5	6	2
18	-0234(2)	Subsurface dripline products use with public domain at-grade systems	1.76	M	H	M	L	N
					7	4	8	2
19	-0238	Designs to facilitate monitoring and maintenance	2.10	M	H	M	L	N
					11	3	5	2
20	-0270	Owner's responsibilities for securing riser lids	1.57	M	H	M	L	N
					9	0	6	6
21	-0270	Operation and maintenance; standards and guidance and installer's responsibilities for developing O&M programs	2.24	M	H	M	L	N
					12	4	3	2
22	-0280	Repair of failures; use of Table IX versus expansions	1.48	M	H	M	L	N
					5	4	8	4
23	-0280	Repair of failures: address use of remediation and new treatment technologies	1.86	M	H	M	L	N
					9	4	4	4
24	-0300	Sewage tank abandonment	1.00	L	H	M	L	N
					2	2	11	6
25	-0320(2)(b)	Subdivisions with individual wells	1.43	L	H	M	L	N
					3	8	5	5
26	-0320(2)(d) Table X & (d)(ii)	Minimum lot size and land area	2.05	M	H	M	L	N
					9	6	4	2
27	-0320(2)(d)(i)	Method II proposals: nitrogen loading and removal	1.76	M	H	M	L	N
					4	10	5	2
28	-0340	O&M service providers licensing	2.29	H	H	M	L	N
					13	3	3	2
29	-0400 & 0410	Technical Advisory Committee and Policy Advisory Committee	1.76	M	H	M	L	N
					8	4	5	4
30	-0420	Waivers; mitigation based and considered only if property is unable to meet minimum rules	1.76	M	H	M	L	N
					5	8	6	2
31	General / Other	Jurisdiction of LHJ on Tribal Reservations	0.86	L	H	M	L	N
					1	4	7	9
32	General / Other	Sustainable OSS infrastructure	1.14	L	H	M	L	N
					4	4	4	9

Issues were scored on the need for them to be revised in regulation: High = 2.25-3; Medium = 1.5-2.24; Low = 0.75-1.49; None = 0-0.74

			Group Recommendation					
#	WAC 246-272A	Agenda Title	Avg Score	Overall Ranking	Ranking Counts			
33	General / Other	DOH tracking system for permitting, monitoring, and maintenance of systems	0.52	N	H	M	L	N
					0	3	5	13

If you have questions about this report or the survey, please contact John Eliasson, Wastewater Management Specialist, at John.Eliasson@doh.wa.gov or 360-236-3041.

