**Chapter 246-275 WAC**

**ON-SITE NONPOTABLE WATER SYSTEMS**

PART 1 GENERAL PROVISIONS

NEW SECTION

**WAC 246-275-100** **Purpose and scope.** (1) **Purpose.** The purpose of this chapter is to set standards for the use of treated nonpotable water from on-site nonpotable water systems (ONWS) to:

(a) Protect and improve public health.

(b) Protect and enhance the environment.

(c) Conserve potable water where nonpotable water can be used safely.

(2) **Scope.** This chapter establishes risk-based standards, administrative, review, and approval processes for ONWS and use-based requirements for treated nonpotable water. This chapter establishes:

(a) General provisions including, but not limited to, those for applicability, waivers and extensions of compliance, variances, professional engineer requirements, and inspections.

(b) Treatment and performance requirements, including risk-based log reduction targets for the removal of pathogens.

(c) Allowable source water, end uses, and implementation scales.

(d) Design and construction standards.

(e) Cross-connection control requirements.

(f) Permitting.

(g) Water quality standards, monitoring, reporting, and recordkeeping.

(h) Operation and maintenance, including qualified operators and O&M manual.

(i) Malfunction notification and user confidence requirements.

(j) Enforcement, violations, and fees.

(3) **Related statutes.** The rules set forth are adopted under RCW 90.46.290 and 43.20.230. Other statutes relating to this chapter include, but are not limited to:

(a) Chapter 19.27 RCW, State building code.

(b) RCW 43.20B.020 Fees for services—Department of health and department of social and health services.

(c) Chapter 43.70 RCW, Department of health.

(d) Chapter 70.05 RCW, Local health department, boards, officers—Regulations.

(e) Chapter 70.46 RCW, Health districts.

[]

NEW SECTION

**WAC 246-275-105** **Applicability.** (1) **Applicability.** The requirements of this chapter apply to ONWS designed, constructed, operated, and maintained to collect and treat source waters for distribution and use as treated nonpotable water, and to the persons, owners, and purveyors involved in these activities, including unapproved legacy ONWS as defined in this chapter.

(2) **Exceptions to applicability.** This chapter does not set standards for, nor does it apply to:

(a) Single-family residences.

(b) Industrial reuse water and closed loop process water reuse, such as closed loop laundry recycling.

(c) Rooftop runoff and stormwater source water with no end uses inside a building.

(d) Reclaimed water facilities permitted or eligible for permitting under chapter 173-219 WAC.

[]

NEW SECTION

**WAC 246-275-110** **Relationship to other applicable regulations.** (1) **Local permits.** Purveyors shall obtain all applicable permits from local authorities having jurisdiction.

(2) **Other regulations.** Persons designing, constructing, altering, repairing, or operating and maintaining an ONWS shall comply with all applicable local ordinances and codes, federal and state statutes, rules, and regulations including, but not limited to, this chapter, chapters 90.46 and 19.27 RCW, and chapter 51-56 WAC.

[]

NEW SECTION

**WAC 246-275-115** **Definitions, abbreviations, and acronyms.** The definitions, abbreviations, and acronyms in this section apply throughout this chapter unless the context clearly indicates otherwise.

(1) "Air conditioning condensate (AC condensate)" means water extracted from atmospheric water vapor due to the operation of air conditioning or refrigeration.

(2) "Accredited laboratory" means an environmental laboratory accredited under chapter 173-50 WAC and operating within its scope of accreditation.

(3) "ANSI" means the American National Standards Institute.

(4) "Approved air gap" as defined in chapter 246-290 WAC.

(5) "Annual report" means a department-supplied form summarizing the annual operational conditions and service population of an on-site nonpotable water system.

(6) "Authority having jurisdiction" means local, state, or federal entities having regulatory authority over a specific aspect of the ONWS project.

(7) "Blackwater" means water-carried domestic human waste, including from toilets or urinals, including liquid effluent from kitchen sinks or dishwashers.

(8) "BOD5" means the five-day biochemical oxygen demand, typically expressed in mg/L.

(9) "Commercial building" means a structure with a single occupancy classification and constructed under RCW 19.27.031 (1)(a), as implemented by chapter 51-50 WAC or local ordinance.

(10) "Conditional startup mode" means a period after the construction of the ONWS during which the treatment and distribution system's operations and performance are monitored and evaluated to validate design and performance assumptions.

(11) "Continuous monitoring" means ongoing confirmation of system performance with the use of sensors, analyzers, meters, and other instrumentation, no less than once every 15 minutes for the continuous observation of selected parameters, including surrogate parameters correlated with pathogen log reduction targets.

(12) "CT" means the disinfectant residual concentration multiplied by contact time.

(13) "Data and monitoring report (DMR)" means a document containing the operation and water quality results of an ONWS permitted under this chapter.

(14) "Department" means the Washington state department of health or health officer as identified in a joint plan of responsibility under WAC 246-275-135(3).

(15) "Department of health" means the Washington state department of health.

(16) "Disability adjusted life years (DALYs)" means the measure of the health burden of a disease, calculated as the sum of years of life lost (YLL) due to premature death and years of life lived with disability (YLD) from illness (DALY=YLL+YLD).

(17) "Disinfection" means a physical or chemical process including, but not limited to, ultraviolet irradiation, ozonation, and chlorination used for the inactivation of pathogenic microorganisms.

(18) "District-scale project" means a single project at the time of design consisting of two or more commercial, multifamily residential, or mixed-use buildings on one or more parcels near the point of treatment or use and sharing an ONWS.

(19) "Engineering report" means a technical document prepared under the direction, and bears the seal, date, and signature of a professional engineer, sent by purveyor to the department describing the ONWS as required under WAC 246-275-210.

(20) "Facility inventory" means a department-supplied form summarizing the characteristics of an ONWS.

(21) "First flush diverter" means a device operated by a mechanical float valve or other type of automatic control which redirects a quantity of roof runoff or stormwater collected from a surface following the onset of a rain event.

(22) "Foundation drainage" means shallow groundwater collected from the drainage around building foundations or sumps. Foundation drainage does not include nonpotable groundwater extracted for beneficial use.

(23) "Graywater" means liquid effluent collected from nonblackwater sources, such as bathroom sinks, showers, bathtubs, clothes washers, and laundry sinks. Does not include flow from toilets or urinals, and does not include liquid effluent from kitchen sinks or dishwashers.

(24) "Health officer" means the person holding this title for the city, county, city-county health department or district, or an authorized representative.

(25) "HPC" means heterotrophic plate count.

(26) "Implementation scale" means the size of the ONWS in terms of the number and type of buildings it serves.

(27) "Industrial reuse water" means water used for industrial processing that has been adequately and reliably treated so that, as a result of that treatment, it is suitable for other uses as defined in RCW 90.46.010(9).

(28) "Inadequately treated nonpotable water" means a source water put through all or part of the ONWS's treatment process that does not satisfy the requirements of this chapter.

(29) "Joint plan of responsibility (JPR)" means a written agreement between the department of health and a local health officer, or designee, as needed, to either partially or fully administer, enforce, and carryout the responsibilities under this chapter.

(30) "Legal agreement" means a written document defining the roles and responsibilities of each property owner or entity acting as a purveyor or user of an ONWS.

(31) "Local health jurisdiction" means a county health department, city-county health department under chapter 70.05 RCW, or a health district under chapter 70.46 RCW.

(32) "Log reduction" means the reduction in the concentration of infective pathogens or surrogate parameters through a treatment process expressed in log10 units. For example, a 1-log reduction equates to 90-percent removal, 2-log reduction to 99-percent removal, and 3-log reduction to 99.9-percent removal.

(33) "Log reduction credit (LRC)" means the log10 reduction value approved by the department for a treatment technology based on the capability of the technology to remove or inactivate pathogens and proposed surrogate parameter for continuous monitoring.

(34) "Log reduction target (LRT)" means the required degree of pathogen reduction needed to reduce an individual's risk to 10-6 DALYs per person per year (PPY) through exposure to treated nonpotable water.

(35) "Major modification" means changes from existing source waters, treatment unit processes, or implementation scales.

(36) "MBR" means membrane biological reactor.

(37) "Mixed-use building" means a structure containing two or more occupancy classifications and constructed under RCW 19.27.031 (1)(a), as implemented by chapter 51-50 WAC or local ordinance.

(38) "Multifamily residential building" means a common wall residential building consisting of four or fewer units, not exceeding two stories in height, less than 5,000 square feet in area, and with a one-hour fire-resistive occupancy separation between units.

(39) "NSF" means National Sanitation Foundation.

(40) "NTU" means nephelometric turbidity unit.

(41) "NWRI" means National Water Research Institute.

(42) "On-site nonpotable water system (ONWS)" means the equipment, including the distribution, storage, and treatment components, necessary to collect and treat source waters, including blackwater, for treated nonpotable water end uses at a single building or in a district-scale project, near the point of treatment, generation, or use. "Nonpotable reuse systems" defined under chapter 173-219 WAC, "on-site systems" defined under WAC 51-56-1500, and "nonpotable rainwater catchment systems" defined under WAC 51-56-1600, are considered ONWS.

(43) "Operations and maintenance manual (O&M manual)" means a document providing comprehensive information including, but not limited to, the ONWS's design, legal status, operation, maintenance, performance, and repair.

(44) "Operating permit" means a legally enforceable written document designed to improve compliance by clarifying the compliance obligations of this chapter for each ONWS. Operating permits are issued by the department to the owner upon application and annually upon reapplication as required under WAC 246-275-405.

(45) "Person" means any individual, government agency, political subdivision of the state, public or private corporation, firm, company, mutual or cooperative association, institution, partnership, or other legal entity.

(46) "Premises isolation" means a method of protecting a public water system by installation of approved air gaps or approved backflow prevention assemblies at or near the service connection to isolate the consumer's water system from the purveyor's distribution system.

(47) "Professional engineer" means a person licensed in the state of Washington under chapter 18.43 RCW or exempt under RCW 18.43.130(6), and having specific expertise appropriate to ONWS design, operation, and maintenance.

(48) "Public access" means the right of people in general to go into parts of buildings or on areas of land for purposes other than operations and maintenance of the ONWS.

(49) "Purveyor" means a person owning, proposing to own, or operating an ONWS. Purveyor also means the authorized agents of these entities including, but not limited to, a qualified operator in responsible charge.

(50) "Qualified operator" means a suitably qualified individual or entity with routine duties that affect the treatment performance or water quality of the treated nonpotable water.

(51) "Reclaimed water" means water derived in any part from wastewater with a domestic wastewater component that has been adequately and reliably treated, so that it can be used for beneficial purposes. Reclaimed water is not considered a wastewater.

(52) "Record drawing" means a document created by an engineer from the collection of the original design plans, including changes made to the design or to the system, which reflects the actual constructed condition of the water system.

(53) "Responsible charge" means the ability, authority, and responsibility of a qualified operator to make decisions that directly impact:

(a) Water quality, water quantity, or public health protection of an ONWS.

(b) Daily operational activities, process control, or system integrity of a treatment process or distribution system of an ONWS.

(54) "Roof runoff" means precipitation from rain or snowmelt events collected directly from a rooftop not subject to frequent public access.

(55) "Rooftop" means a part of a fixed structure above the ground with a primary purpose other than the collection of roof runoff for beneficial use.

(56) "RPBA" means reduced pressure backflow assembly.

(57) "RPDA" means reduced pressure detector assembly.

(58) "Source water" means blackwater, graywater, roof runoff, stormwater, foundation drainage, AC condensate, or other untreated, nonpotable water approved by the department under WAC 246-275-120 that is captured for treatment and nonpotable end uses on-site or nearby.

(59) "Spray irrigation" means a method of applying water for use by plants where the water emits from a fixture or device into the air before contacting the soil, ground, or plant surface.

(60) "Stormwater" precipitation runoff from rain or snowmelt events that flows over land or impervious surfaces, for example streets and parking lots, and does not soak into the ground. Stormwater also includes precipitation from rain or snowmelt events collected directly from a rooftop subject to frequent public access.

(61) "Subsurface irrigation" means a method of applying water for use by plants where the water is delivered beneath the soil surface.

(62) "Surface nonspray irrigation" means a method of applying water for use by plants where the water is delivered directly at the ground plane via hardware such as drip emitters or soaker hoses.

(63) "Surrogate parameter" means a measurable physical or chemical parameter that can assess the performance of a treatment unit process in the control of a specific group or groups of pathogens or chemicals.

(64) "Treated nonpotable water" means the water generated by the ONWS that meets the log reduction targets and water quality limits established in this chapter which make it suitable for approved nonpotable end uses. Treated nonpotable water is not intended nor is it approved for drinking or other potable uses.

(65) "Treatment process" means a combination of treatment unit processes and is also known as a treatment train.

(66) "Treatment unit process" means a physical, chemical, or biological system intended to improve water quality. Examples include filtration, oxidation, adsorption, disinfection, and membrane separation.

(67) "TSS" means total suspended solids.

(68) "Unapproved legacy ONWS" means any ONWS, not yet permitted under this chapter, either in operation prior to January 1, 2022, and required to comply with RCW 90.46.290 (3)(a) and (b) and this chapter, or any ONWS designed, constructed, permitted, or in operation prior to the effective date of this chapter and required to comply with this chapter.

(69) "User" means people who use or otherwise interact with fixtures, appliances, or landscaping using treated nonpotable water from an ONWS including, but not limited to, property owners, residents, commercial tenants, employees, and transient visitors.

(70) "Validation engineering report" means a technical document prepared under the direction, and bears the seal, date, and signature, of a professional engineer providing a detailed treatment technology evaluation study conducted by challenging the treatment technology over a wide range of operational conditions.

[]

NEW SECTION

**WAC 246-275-120** **Allowed source water.** The following source waters may be collected, stored, treated, and permitted under this chapter:

(1) Source waters approved under the variance procedure described in WAC 246-275-145(1).

(2) Blackwater.

(3) Graywater.

(4) Stormwater.

(5) Roof runoff.

(6) Foundation drainage.

(7) AC condensate.

[]

NEW SECTION

**WAC 246-275-125** **Allowed end uses.** (1) Treated nonpotable water may be permitted under this chapter for the following end uses:

(a) End uses approved under the variance procedure described in WAC 246-275-145(1).

(b) Toilet and urinal flushing.

(c) Priming drain traps.

(d) Clothes washing.

(e) Subsurface irrigation, surface nonspray irrigation, and spray irrigation of nonfood plants.

(f) Dust control and street cleaning.

(2) End uses not allowed under this chapter or eligible for a variance under WAC 246-275-145 include, but are not limited to, the following:

(a) Drinking.

(b) Food preparation and cooking.

(c) Patio misting systems for temperature or humidity control.

(d) Showering and bathing.

(e) Handwashing or other sanitary uses, including bidets.

(f) Any release of treated nonpotable water to waters of the state defined under chapter 90.48 RCW.

[]

NEW SECTION

**WAC 246-275-130** **Allowed implementation scales.** ONWS may be designed, constructed, and permitted and the treated nonpotable water generated by the ONWS may be used under this chapter at the following implementation scales:

(1) An implementation scale approved under the variance procedures described in WAC 246-275-145(1).

(2) Multifamily residential building.

(3) Commercial building.

(4) Mixed-use building.

(5) District-scale project.

[]

NEW SECTION

**WAC 246-275-135** **General administration.** (1) **Implementation of chapter.** The department of health shall administer, enforce, and carry out the responsibilities under this chapter.

(2) **Joint plan of responsibility.** The department of health may establish joint plans of responsibility (JPR) with a local health officer, or designee, to either partially or fully administer, enforce, and carryout the responsibilities under this chapter. A JPR must:

(a) List the roles and responsibilities of each jurisdiction and agency necessary to fulfill the purposes of this chapter including, but not limited to, the required number and type of full-time equivalent (FTE) positions to administer, enforce, and carryout the responsibilities under this chapter.

(b) Specifically designate types or categories of ONWS for which the department of health and a local health officer have primary responsibility.

(c) Provide for an agreed-to level of ONWS oversight that fulfill the roles and responsibilities necessary to administer, enforce, and carryout the responsibilities under this chapter.

(d) Be signed by the secretary of health, or designee, and the health officer, or designee.

(e) Be reviewed at least once every five years and updated as needed.

(3) **Shared services.** If allowed in a JPR established under subsection (1) of this section and in accordance with RCW 39.34.030, a health officer or designee may establish joint or cooperative action agreements with other health officers, or designee, to either partially or fully administer, enforce, and carryout the responsibilities under this chapter. The agreement must include, but is not limited to, the required number and type of FTE positions to administer, enforce, and carry out the responsibilities under this chapter.

(4) **Local engineering review.** For those ONWS where the health officer has assumed primary responsibility under subsection (2) or (3) of this section, the health officer or designee may review and approve feasibility studies, engineering reports, and construction documents in accordance with this chapter.

(5) **Forms.** The department of health may provide forms to administer this chapter. Such forms may be altered by the health officer or designee as necessary to, without limitation, request or require additional information, and provide local health jurisdiction contact information.

(6) **Statewide ONWS data collection.** Local health jurisdictions implementing all or part of this chapter shall provide ONWS information and data annually to the department of health on a form provided by the department of health.

[]

NEW SECTION

**WAC 246-275-140** **Engineering qualifications.** All work required to be prepared under the direction of a professional engineer including, but not limited to, feasibility studies, engineering reports, validation engineering reports, construction documents, and construction completion reports must be prepared under the direction of a professional engineer and bear the seal, date, and signature of the professional engineer. The professional engineer shall:

(1) **License.** Be licensed in the state of Washington under chapter 18.43 RCW or engaged within the state in the practice of the profession of engineering for the United States government pursuant to RCW 18.43.130(6) as officers or employees.

(2) **Experience.** Have expertise commensurate with the complexity of the design, operation, and maintenance of the ONWS.

[]

NEW SECTION

**WAC 246-275-145** **Variances, waivers, and extensions.**  (1) **Variances.** Purveyors may apply for a variance from certain requirements of this chapter. Variances are granted in the sole discretion of the department. Applications must be consistent with the purpose of this chapter and submitted in writing to the department. Variances may be granted for:

(a) **Water source and use.** Except for the end uses listed under WAC 246-275-125(2), additional water sources and end uses under WAC 246-275-120 and 246-275-125 may be approved and permitted.

Purveyors shall provide analogous system performance data, appropriate water quality criteria, and ongoing monitoring results to demonstrate the expected water quality data for source waters and treatment.

(b) **Implementation scale.** Additional implementation scales under WAC 246-275-130 may be approved and permitted provided:

(i) The proposed implementation scale is consistent with the purpose of this chapter.

(ii) The purveyor provides a copy of the feasibility study required under WAC 246-275-205 to the department of ecology to evaluate the need for a water right impairment review under RCW 90.46.290 (2)(i).

(iii) The purveyor provides other relevant documents requested by the department or the department of ecology.

(iv) The engineering report under WAC 246-275-210 satisfies all relevant requirements from the department and, if applicable, department of ecology requirements to mitigate, compensate, or otherwise address a water right impairment.

(c) **Sampling and reporting.** Alternative sampling requirements and reporting frequencies may be approved and permitted if a purveyor demonstrates exceptional circumstances causing practical difficulties or unnecessary hardship.

(2) **Waiver of compliance.** As provided under RCW 90.46.290, a permitting local jurisdiction, including the applicable local health jurisdiction, county, city, or town, may grant a waiver of compliance to the risk-based water quality or construction standards of this chapter to an ONWS in operation before January 1, 2022. If a waiver of compliance is granted by the local permitting jurisdiction, they must notify the owner, the local health jurisdiction, and the department of health of their decision in writing.

(a) **Application.** Owners of an ONWS in operation prior to January 1, 2022, may apply for a waiver of compliance with only the risk-based water quality and construction standards and only if compliance requiring engineering, repair, or replacement is shown to be cost prohibitive. The application must:

(i) Identify the specific risk-based water quality or construction standard for which the waiver is sought. Waivers may only be granted for risk-based water quality or construction standards.

(ii) Identify the cost prohibitive engineering, repair, or replacement necessary to achieve compliance with the standards under (a)(i) of this subsection.

(iii) State no major modifications have been made to the ONWS after the effective date of this chapter.

(iv) Supply any additional information requested by the permitting local jurisdiction including, but not limited to, record drawings and a description of all the modifications needed to comply with this chapter.

(b) **Duration.** Waivers may not be greater than a three-year term. Upon expiration, purveyors shall comply with the risk-based water quality and construction standards of this chapter or reapply for a waiver of compliance under (c) of this subsection.

(c) **Reapplication.** If necessary and allowable under (a) of this subsection, purveyors may submit successive applications for a waiver of compliance provided the requirements under this subsection continue to be met, including user notification under subsection (4) of this section.

(3) **Extension of compliance.** Purveyors operating an ONWS may apply to the department for an extension of time to comply with the requirements of this chapter.

(a) The application must be in writing, provide compelling cause for an extension to comply and state a reasonable compliance schedule.

(b) The department may issue purveyors an extension for specific requirements of this chapter for a reasonable period provided there is compelling cause.

(c) Supply any additional information requested by the department including, but not limited to, record drawings and a description of all the modifications needed to comply with this chapter.

(4) **User notification.** Purveyors granted a waiver of compliance under subsection (2) of this section or an extension of compliance under subsection (3) of this section shall deliver annual, dated notice to all users. The notice must identify the requirements for which the ONWS has received the:

(a) Waiver of compliance; costs associated with coming into compliance; expiration date of the waiver.

(b) Extension of compliance; compelling cause for the extension; anticipated timeline for coming into compliance.

[]

NEW SECTION

**WAC 246-275-150** **Inspection.** **Site and document access.** Owners, purveyors, and users shall allow the department to enter and inspect any ONWS governed by this chapter.

(1) All properties served by an ONWS, including all properties that provide source waters or are served treated nonpotable water, are subject to inspection.

(2) The department may conduct an inspection without advance notice.

(3) The department shall conduct inspections during normal business hours or during construction.

(4) Owners and purveyors shall make all required documentation available for inspection and provide copies on request.

[]

PART 2 PLANNING, REVIEW, APPROVAL, AND PERMITTING PROCESS

NEW SECTION

**WAC 246-275-200** **New systems and major modifications to approved ONWS.** (1) **General process overview.** Owners and purveyors proposing a new ONWS or major modifications to an approved ONWS shall, in general, follow the sequence provided in this section unless the department or the sequence in a JPR states a different order is necessary to satisfy the requirements of this chapter.

(2) **Before construction.** Before construction, purveyors shall submit to the department for review and approval the following:

(a) Feasibility study under WAC 246-275-205.

(b) Engineering report under WAC 246-275-210.

(c) Construction documents under WAC 246-275-210(5).

(d) All applicable permits issued by local authorities having jurisdiction including, but not limited to, all construction and plumbing permits.

(3) **During construction.** During construction, purveyors shall make the site available for inspection by the department or local authority having jurisdiction, as required under WAC 246-275-150.

(4) **After construction.** After construction, purveyors shall send to the department:

(a) A construction completion report pursuant to WAC 246-275-215.

(b) Record drawings if the ONWS as constructed differs in any way from the approved design under WAC 246-275-215.

(5) **Before entering conditional startup mode.** Purveyors shall:

(a) Test, in the presence of the authority having jurisdiction, to confirm that no cross-connections exist under WAC 246-275-400(1).

(b) Request and receive a notice to proceed to conditional startup mode under WAC 246-275-400(3).

(6) **During conditional startup mode.** While operating in conditional startup mode, purveyors shall:

(a) Operate, monitor, and report pursuant to the conditional startup mode requirements of this chapter, including WAC 246-275-400 and 246-275-500.

(b) If required, submit the validation engineering reports to the department for review and approval under WAC 246-275-305(2).

(7) **Completing conditional startup mode.** To complete the conditional startup mode performance period, purveyors shall comply with the requirements under WAC 246-275-400 including, but not limited to, the following submittals to the department for review and approval:

(a) A *conditional startup mode* final report.

(b) O&M manual.

(8) **Applying for an operating permit.** Owners shall, after the conditional startup mode performance period is complete:

(a) Submit an operating permit application under WAC 246-275-405 and the documentation required under WAC 246-275-405 (2)(a) through (e) to the department.

(b) Pay applicable fees under WAC 246-275-990 to the department.

(9) **During final use mode.** Purveyors shall operate, maintain, monitor, keep records, and report on the ONWS pursuant to the following:

(a) Final use mode requirements in this chapter.

(b) Approved O&M manual.

(c) Operating permit issued by the department.

(10) **Annual permit renewal and fees.** Owners shall renew the operating permit annually under WAC 246-275-405 and pay applicable fees under WAC 246-275-990.

[]

NEW SECTION

**WAC 246-275-205** **Feasibility study.** Purveyors may request a preproject meeting with the department to discuss the scope of the project and the feasibility study required in this section.

(1) Purveyors shall submit a feasibility study to the department for review and approval before submitting the engineering report or construction documents, or the installation of any ONWS component.

(2) The feasibility study must include, but is not limited to, a description of the proposed new ONWS project including:

(a) Legal owner.

(b) Project site.

(c) The expected operator qualifications, skills, and experience needed to operate and maintain the ONWS in compliance with this chapter.

(d) Proposed source waters.

(e) Proposed treatment unit processes with LRC values for the proposed unit processes and compliance with the risk-based water quality standards.

(f) Proposed end uses.

(g) Consideration of financial and staffing requirements for the proposed ONWS.

(h) Identification of all local permits and requirements affecting the project.

(i) Other data and information deemed necessary by the department to show the feasibility of the proposed project.

[]

NEW SECTION

**WAC 246-275-210** **Engineering report and construction document submittal.** Engineering reports and construction documents may be submitted together; however, construction documents will not be reviewed or approved until the engineering report requirements of this section have been reviewed and approved.

(1) **Engineering report.** Before the department will review construction documents, purveyors shall submit engineering reports consistent with the standards in Part 3 of this chapter, compatible with component replacement, long-term operation and maintenance, and potential abandonment of the ONWS.

(2) **Engineering report submittal and review**. ONWS engineering reports are required for all unapproved legacy ONWS, new ONWS, or major modifications to any ONWS. Engineering reports required under this section will not be reviewed unless fees have been paid to the department as described in WAC 246-275-990.

(3) **Engineering report contents.** All ONWS engineering reports must specify necessary operating conditions and identify surrogate parameters requiring continuous monitoring. Engineering reports must show required log reduction credits are achieved by treatment processes and are consistent with WAC 246-275-305, Table 2. The engineering report must include, but is not limited to:

(a) General overview including facility information and responsible party.

(b) Basis of design for ONWS, including minimum, peak, and average daily source water and treated nonpotable demand flow rates and source water quality and treated nonpotable water quality.

(c) Treatment process design criteria, including:

(i) Process flow diagram.

(ii) Consideration for treatment of source water during partial occupancy periods or when environmental or other limiting factors would impact treatment performance.

(iii) Pathogen log reduction credit under WAC 246-275-305.

(iv) Treatment process flow summary.

(v) Treatment unit process design criteria.

(vi) Secondary disinfection.

(vii) Chemical use and handling.

(viii) Solids handling.

(d) Operations and maintenance considerations.

(i) Wastewater source control for biological treatment systems including prevention of hazardous waste disposal that kill treatment microbes.

(ii) Treatment prescreening to capture and remove hair, "flushable" wipes, and similar nondegradable contaminants. Incorporation of daily, easy, and safe access for operators to service prescreens.

(iii) Consideration for treatment equipment repair and replacement access including full access to storage tank hatches.

(iv) Workspace odor control and air quality safety.

(v) Reliability features.

(vi) Workplace safety equipment including, but not limited to, chemical showers, eye wash station, spill and first-aid kits.

(vii) O&M training program and employee notification procedures.

(e) Monitoring and alarms.

(i) System control strategy including full access to critical equipment components and control points.

(ii) Online monitoring.

(iii) Grab sampling with safe and easy access to sampling ports.

(iv) Alarms and diversions.

(f) Supplemental water supply and cross-connection control under WAC 246-275-415.

(g) Public exposure and impacts.

(h) Detailed conditional startup mode operations testing and monitoring plan in accordance with WAC 246-275-400, 246-275-500, and Table 5. These plans must demonstrate that the ONWS will function as intended, reliably and consistently achieve the LRTs and water quality limits established in this chapter, and must include:

(i) Hydraulic load during the test.

(ii) Location and schedule for all sampling or measurements.

(iii) Methods used to analyze samples or make measurements.

(iv) Persons responsible for conducting the test and processing samples.

(v) Indicators of steady-state operation.

(vi) Method used to verify required pathogen log reduction targets are achieved.

(vii) Test plan for the monitoring, alarm, alarm response, and control systems.

(viii) If required, a field verification study for log reduction targets, including the surrogate parameters for field verification to determine log reduction performance and a process for accounting for variability in the ONWS during field verification. Field verification must consist of at least three test runs during which the water quality, influent flow rate to the treatment process, or both, is the most challenging for treatment process efficacy or for the subsequent treatment unit process.

(ix) Consideration of partial occupancy periods and environmental or other limitations that will impact the quantity of available source water or otherwise impact the timing and the duration of the performance period.

(i) Environmental documentation including, but not limited to, a final state environmental impact statement, determination of nonsignificance, or mitigated determination of nonsignificance under chapters 43.21C RCW and 197-11 WAC or water rights impairment documentation if required under WAC 246-275-145 (1)(b)(iv).

(j) Other data and information deemed necessary to show a complete engineering report.

(4) **Unapproved legacy ONWS.** In addition to the requirements of subsection (3) of this section, the engineering report for unapproved legacy ONWS must describe the existing facilities and all modifications needed to comply with this chapter.

(5) **Construction documents submittal.** Purveyors shall submit construction documents for review and approval.

(a) **Unapproved legacy ONWS.** Before the department will review construction documents, the engineering report requirements under subsections (3) and (4) of this section must be met. Purveyors shall submit record drawings and other construction documents to the department for review and written approval before beginning ONWS major modifications, or requesting a notice to proceed to conditional startup mode under WAC 246-275-400(3).

(b) **New ONWS and major modifications.** Before the department will review construction documents for new ONWS or ONWS major modifications, the feasibility study and engineering report requirements in this chapter must be met. Purveyors of new ONWS or ONWS major modifications shall submit construction documents to the department and get written approval before construction of any new ONWS or major modifications.

(6) **Construction documents contents.** All ONWS construction documents must show how the project was or will be modified or constructed to satisfy the requirements and conditions in the approved engineering report. Construction documents must be consistent with the design requirements in Part 3 of this chapter and must include, but are not limited to:

(a) **Drawings.** Include detailed drawings of each project part.

(b) **Material specifications.** List detailed material specifications for each project part.

(c) **Construction specifications.** List detailed construction specifications and assembly techniques for conducting the project.

(d) **Testing.** Identify testing criteria and procedures for each applicable portion of the project.

(e) **Disinfection.** Disinfection procedures that conform with American Water Works Association (AWWA) standards or other standards acceptable to the department must be listed.

(f) **Inspection.** Identify provisions for inspection of the installation of each project component.

(7) **Construction reporting.** Provide construction reports as required under WAC 246-275-140 and 246-275-215.

(8) **Major modification change orders.** Purveyors shall submit all major modifications to the department for review and approval.

[]

NEW SECTION

**WAC 246-275-215** **Construction completion report and facility inventory.** Purveyors shall submit a construction completion report and record drawings to the department after construction is completed and these must bear the seal, date, and signature of a professional engineer stating the ONWS was constructed in accordance with the approved engineering report and construction documents. Purveyors shall submit a facility inventory with the construction completion report.

[]

PART 3 DESIGN, LOG10 REDUCTION TARGETS AND CREDITS, AND WATER QUALITY LIMITS

NEW SECTION

**WAC 246-275-300** **Pathogen log reduction targets (LRT).** (1) **Design.** ONWS must have a treatment process design to achieve the log reduction targets in Table 1 of this section.

(2) **Diversion.** Inadequately treated nonpotable water not meeting log reduction targets in Table 1 of this section must divert to sanitary or storm sewer appropriate for the source of inadequately treated water as described under WAC 246-275-315(3).

**Table 1: Pathogen Log10 Reduction Targets (LRT)**

| **Source Waters** | **Enteric Virus** | **Parasitic Protozoa** | **Bacteria** |
| --- | --- | --- | --- |
| Roof runoff | N/A | 0.8 log10 | 3.4 log10 |
| Stormwater | 5.7 log10 | 3.8 log10 | 3.3 log10 |
| Foundation drainage | 5.7 log10 | 3.8 log10 | 3.3 log10 |
| AC condensate | N/A | N/A | 3.3 log10 |
| Graywater | 7.3 log10 | 4.0 log10 | 3.1 log10 |
| Blackwater | 9.8 log10 | 6.3 log10 | 5.5 log10 |
| Source waters granted a variance under WAC 246-275-145(1) and permitted under WAC 246-275-120(1). | As reasonably determined by the department consistent with data available pursuant to WAC 246-275-145 (1)(a) and documented in the approved engineering report. | | |

[]

NEW SECTION

**WAC 246-275-305** **Log reduction credits.** (1) **LRC assignment.** Log reduction credits (LRC) are assigned by the department based on the ability of each treatment unit process to achieve an assigned or validated log reduction credit. Table 2 of this section summarizes the log reduction credits assigned for each treatment unit process and includes examples of required supporting information and surrogate parameters.

(2) **Alternate treatment unit process LRC validation.** Other treatment unit processes not included in Table 2 of this section may receive LRC if verifiable evidence is provided in an approved validation engineering report. The validation engineering report must characterize and quantify ONWS treatment performance under a specified set of conditions, include evidence the treatment unit process can reliably and consistently achieve a specific LRT, and provide information on the required operating conditions and surrogate parameters that require continuous monitoring.

(3) **Site-specific LRC validation.** Projects may seek higher log reduction credit with site-specific validation, surrogate parameters, or other approved methods. The treatment unit processes listed in Table 2 of this section are a few potential options for treatment unit processes that may be considered.

(4) **Membrane biological reactor.** Membrane biological reactor (MBR) operating envelope must be fully defined in the engineering report. The LRCs listed for MBR in Table 2 of this section are based on compliance with the Tier 1 operating envelope defined in the *National Validation Guidelines for Water Recycling: Membrane Bioreactors*, Australian Water Recycling Center of Excellence (AWRCE), Brisbane, Queensland (November 2015).

(5) **Ultraviolet (UV).** UV log reduction credits are reactor-specific and dose dependent. UV reactors validated under NSF/ANSI 55 Class A standard are acceptable. A professional engineer must prepare all other UV validation reports. The UV validation report must document results. Validation testing must be based on one of the following:

(a) United States Environmental Protection Agency (US EPA) UV Disinfection Guidance Manual (US EPA 2006).

(b) NWRI UV Disinfection: Guidelines for Drinking Water and Water Reuse, third edition (NWRI 2012).

(c) NSF/ANSI 55 Standard for UV Water Treatment Systems.

(d) DVGW W294 (Deutsche Vereinigung des Gas und Wasserfaches).

(e) ÖNORM M5873-1 or ÖNORM M5873-2 protocol (Österreichisches Normungsinstitut - Austrian Standards Institute).

(f) A protocol acceptable to the department.

(6) **Ozone.** Bacteria credit may be obtained for ozone according to the Tier 1 framework in the AWRCE Ozone WaterVal Validation protocol.

**Table 2: Treatment Unit Process Log10 Reduction Credits**

|  | **Log10 Reduction Credits** | | |  |  |
| --- | --- | --- | --- | --- | --- |
| **Treatment Unit Process** | **Virus** | **Protozoa** | **Bacteria** | **Treatment-specific Information to Include in Engineering Report** | **Examples of Continuous Monitoring Surrogate Parameters** |
| Microfiltration or ultrafiltration | 0.0 | 4.0 log10 | Case-by-case | Description and calculation of how the system defines an acceptable pressure decay test value per the US EPA's Membrane Filtration Guidance Manual (US EPA 815-R-06-009). | • Daily pressure decay test.  • Filtered water turbidity.  • Continuous transmembrane pressure and flux. |
| MBR | 1.5 log10 | 2.0 log10 | 4.0 log10 | • Operation with the Tier 1 operating envelope.  • Nominal pore sizes of 0.04-0.10 μm. | Filtered water turbidity. |
| Reverse osmosis | 2.0 log10 | 2.0 log10 | 2.0 log10 | • Manufacturer's information indicating ability to reject sodium chloride and description.  • Rationale for surrogate parameter used to calculate log removal credits. | • Input and output total organic carbon.  • Input and output electrical conductivity. |
|  | Surrogate parameter dependent | | |  |  |
| UV light disinfection | 6.0 log10 | 6.0 log10 | 6.0 log10 | • UV reactor's validation documentation.  • Minimum reactor dose (mJ/cm2) and expected LRT for the validated dose. | • UV intensity.  • UV transmittance.  • Flow rate. |
|  | Dose dependent | | |  |  |
| Chlorine disinfection | 4.0 log10 | Case-by-case | Case-by-case | • LRT credit supporting documentation.  • Specifics on how concentration and contact time will be determined. | • Free chlorine residual.  • Flow rate. |
|  | CT dependent | | |  |  |
| Ozone disinfection | 4.0 log10 | 3.0 log10 | 4.0 log10 | Specifics on how concentration and contact time will be determined. | • Ozone residual.  • Flow rate. |
|  | CT dependent | | |  |  |

[]

NEW SECTION

**WAC 246-275-310** **Water quality limits.** ONWS must have a treatment process design to continuously achieve the water quality limits in Table 3 of this section and the diversion requirements in WAC 246-275-300(2) and 246-275-315(3).

**Table 3: Water Quality Limits**

| **Parameter** | **Limit** | **Immediate Diversion** |
| --- | --- | --- |
| Log10 reduction targets (LRT) | See WAC 246-275-300, Table 1 | Yes |
| Free Chlorine Residual for secondary disinfection minimum, when required by WAC 246-275-315(7) | 0.5 mg/L (at entry to distribution)  0.2 mg/L (at a representative location at end of distribution) | No |
| pH | 6.0 - 9.0 | No |
| Turbidity (95% maximum) | 0.2 NTU | No |
| Turbidity (absolute maximum) | 0.5 NTU | Yes |
| 5-day Biological Oxygen Demand (BOD5) | 30 mg/L | No |
| Total Suspended Solids (TSS) | 30 mg/L | No |

[]

NEW SECTION

**WAC 246-275-315** **Design requirements for all ONWS.** All ONWS must:

(1) **Human contact.** Be designed to avoid unintentional contact with humans.

(2) **Automatic shutdown.** Be designed and equipped with features that result in a controlled and nonhazardous automatic shutdown of the treatment process in case of a treatment or physical malfunction or failure.

(3) **Divert or overflow.** Include diversion and overflow connections to the sanitary or stormwater system, when appropriate, with an approved air gap or other approved backflow prevention assembly. ONWS that treat blackwater or graywater must divert to sanitary sewers. If permitted by the authority having jurisdiction, ONWS that only treat rooftop runoff, stormwater, or both may divert to stormwater systems. The ONWS must always be capable of diverting when:

(a) During conditional startup mode.

(b) The required log reduction targets under WAC 246-275-300, Table 1 or applicable water quality limits in WAC 246-275-310, Table 3 are not met.

(c) There is an ONWS malfunction or failure.

(4) **Signage.** Include signage on all properties collecting, treating, receiving, or distributing water from an ONWS. Signage must be in a language that is understood by the population served, maintained in good condition, and free from damage or removal.

(5) **Flow meters.** Be designed with and have:

(a) Appropriate flow meters to verify and control flow rates and contact times required to meet the LRTs.

(b) Totalizing flow meters to separately measure the volume of:

(i) Treated water for permitted end uses.

(ii) Makeup water for permitted end use.

(6) **Water quality sample taps.** Have sample taps installed before and after each treatment unit process and along the distribution system.

(7) **Free chlorine residual for secondary disinfection.** Except for ONWS permitted solely for subsurface irrigation as an end use or when using makeup water, the ONWS must include a treatment unit process to achieve a free chlorine concentration in the treated nonpotable water. The free chlorine concentration must be a minimum of:

(a) 0.5 mg/L at the entry to the distribution system.

(b) 0.2 mg/L at a representative location at the end of the distribution system.

(8) **Air quality.** Be designed and operated to control odors and comply with applicable local, state, and federal indoor air quality standards.

(9) **Screens.** Screen all air vents for ONWS water tanks or collection tanks with a durable, noncorrosive, fine mesh screen.

(10) **Seals.** Include seals for all gaps around pipes feeding the water tank with a durable, waterproof, nonporous material. A durable gasket with no gaps must be installed around the door openings to the tank.

(11) **Cross-connection control.** Prevent cross-connections with potable and reclaimed water supplies.

(12) **Continuous monitoring.** Be designed to continuously monitor:

(a) LRT surrogate parameters at locations identified in the approved engineering report.

(b) Unless a reduced monitoring frequency using a grab sample is approved in the engineering report under WAC 246-275-210, free chlorine residual at entry to the distribution system when a free chlorine residual is required under subsection (7) of this section.

(c) pH at entry to distribution.

(d) Turbidity in filter output.

(13) **Makeup water.** Excluding irrigation-only systems, ONWS must include a source of makeup water. Makeup water must be provided via an approved air gap. The makeup water source must be either:

(a) A public water system approved by the department under chapter 246-290 or 246-291 WAC.

(b) A reclaimed water facility permitted under chapter 173-219 WAC for the end uses supplied by the ONWS.

[]

NEW SECTION

**WAC 246-275-320** **Design requirements based on source water.** ONWS must include design features specific to each approved source water as described in this section.

(1) **Blackwater and graywater.** All ONWS treating blackwater or graywater must:

(a) Be designed to include at a minimum the following treatment unit processes:

(i) Biological treatment resulting in stabilized, nonputrescible nonpotable water that contains dissolved oxygen.

(ii) Filtration.

(b) Be designed to properly vent storage tanks as required under chapter 51-56 WAC.

(2) **Roof runoff and stormwater.** ONWS treating roof runoff or stormwater must:

(a) Include a first flush diverter or debris excluder as required under chapter 51-56 WAC.

(b) Address corrosivity of the treated nonpotable water on end use plumbing and fixtures.

(3) **AC condensate.** ONWS treating AC condensate must address corrosivity of the treated nonpotable water on end use plumbing and fixtures.

[]

NEW SECTION

**WAC 246-275-325** **Design requirements based on use.** **Irrigation.** ONWS supplying treated nonpotable water for irrigation must include design features so the treated nonpotable water does not:

(1) Leave the approved irrigation area as spray or surface flow or runoff, including when soils are saturated.

(2) Enter a dwelling or food handling facility.

(3) Contact a drinking water fountain without a shielding device.

[]

NEW SECTION

**WAC 246-275-330** **Design requirements based on implementation scale.** **District-scale.** ONWS collecting, treating, receiving, or distributing water, or a combination of these, for a district-scale project must include lockable valves which can be activated to control the flow of water from any source originating from another property and lockable valves which can be activated to control the flow of water to any property.

[]

PART 4 OPERATIONS

NEW SECTION

**WAC 246-275-400** **Conditional startup mode operations.** (1) **Cross-connection control.** Before conditionally operating the ONWS, cross-connection testing must confirm the ONWS is not cross-connected in any manner with the potable water system under WAC 246-275-415.

(2) **Conditional startup mode.** All new ONWS and all ONWS having completed major modifications, must operate in a conditional startup mode during which the system's operation and performance must be verified in accordance with WAC 246-275-210 (3)(j).

(3) **Notice to proceed.** After satisfactory completion of subsection (1) of this section and upon request by the purveyor, the department shall issue a dated notice to proceed to conditional startup mode.

(4) **Diversion required.** Prior to distribution and use all treated nonpotable water must be diverted, as described in WAC 246-275-315(3), and all fixtures must be operated using makeup water until the LRTs in WAC 246-275-300, Table 1 and water quality limits in WAC 246-275-310, Table 3 are met, continuously for 30 days.

(a) After 30 days of continuously meeting the requirements, the purveyor may distribute and use the treated nonpotable water for the remainder of the conditional use startup mode performance period.

(b) Diversion under this subsection and chapter is always required when not achieving the LRTs in WAC 246-275-300, Table 1 and water quality limits in WAC 246-275-310, Table 3.

(c) The department may reduce the duration of the required diversion in this subsection on a case-by-case basis.

(5) **Performance period.** Purveyors must meet the conditional startup mode requirements in this section within two years of the issuance of the notice to proceed to conditional startup mode unless a department-issued extension is obtained.

Conditional startup mode must begin after construction or major modification is completed but before obtaining an operating permit.

(a) The ONWS must operate in conditional startup mode for 12 months.

(b) The department may reduce the duration of the required conditional startup mode performance period in this subsection on a case-by-case basis.

(6) **Completing conditional startup mode.** Purveyors must submit a conditional startup mode final report to the department for review and approval after completion of the conditional startup mode performance period. The report:

(a) Must summarize the LRT and water quality compliance required under WAC 246-275-300, Table 1 and WAC 246-275-310, Table 3.

(b) Must be signed and stamped by the project's professional engineer under WAC 246-275-140.

(c) Must be submitted by the purveyor, with the finalized O&M manual in compliance with the requirements under WAC 246-275-440, once conditional startup mode requirements approved under WAC 246-275-210 (3)(g) are met.

(d) May not be approved if the conditional startup mode requirements are not met.

(i) If the conditional startup mode requirements are not met, the purveyor must submit to the department for review and approval the necessary changes to fully address LRT, water quality, and other performance deficiencies.

(ii) Until the requirements of this section are met, an operating permit may not be sought or issued.

(iii) The department may extend the duration of the required diversion, the conditional startup mode performance period, or both if necessary to fulfill the purpose of this section.

[]

NEW SECTION

**WAC 246-275-405** **Operating permit.** (1) **Operating permit required.** Except for purveyors authorized by the department to operate in conditional startup mode, the owner of ONWS shall obtain an operating permit to operate an ONWS. To remain valid, the owner shall continuously meet the permit terms and conditions.

(2) **Permit application.** The department shall not issue an operating permit to operate ONWS until the owner has complied with the requirements of this chapter, including payment of fees and the submittal, review, and approval of the required documentation:

(a) **Evidence of a qualified operator.** A department provided affidavit of qualifications form signed by the qualified operator in responsible charge and the ONWS owner stating the operator's expertise is commensurate for the complexity of the operation and maintenance of the permitted ONWS.

(b) **Facility inventory.** A department provided, current facility inventory signed by the qualified operator in responsible charge or the ONWS owner.

(c) **Annual report.** Except for a new ONWS, a completed, department provided annual report form from the previous permit cycle as required under WAC 246-275-510.

(d) **Evidence of conditional startup mode performance.** All owners of ONWS shall provide evidence of conditional startup mode performance.

(i) ONWS owners having successfully completed a conditional startup mode performance period under WAC 246-275-400(5) shall provide an approved conditional startup mode final report under WAC 246-275-400(6) and finalized O&M manual satisfying the requirements of WAC 246-275-440.

(ii) ONWS owners renewing an operating permit under subsection (4) of this section, while in the conditional startup mode performance period due to major modifications, shall provide a copy of the notice to proceed to conditional startup mode.

(e) **User notification.** For ONWS granted a waiver of compliance or an extension of compliance under WAC 246-275-145, a copy of the notice sent to all users satisfying the requirements of WAC 246-275-145(4) and dated within the previous 12 months.

(3) **Permit terms and conditions.** The operating permit must identify terms and conditions determined to be necessary by the department for the protection of public health, the environment, and to implement this chapter. The permit must address, at a minimum:

(a) Site entry and access.

(b) Duty to provide information and cooperate with regulators.

(c) Reporting planned changes.

(d) Water quality limits including, sample type, method, point of compliance.

(e) Limit the distribution and use of treated nonpotable water to those end uses and locations established in the operating permit.

(f) Prohibit the release or distribution of inadequately treated nonpotable water, including water quality limits that qualify treated nonpotable water for diversion or shutoff in case of ONWS malfunction or failure.

(g) Approved design capacity.

(h) Use specific permit conditions may include specific conditions authorizing and controlling the storage, treatment, distribution, and permitted end uses of treated nonpotable water in accordance with this chapter and in a manner that protects public health and the environment.

(i) Cross-connection control.

(j) Qualified operator in responsible charge and operations and maintenance requirements.

(k) Monitoring, reporting, and recordkeeping.

(4) **Permit renewal.** Purveyors, including purveyors with ONWS in conditional startup mode due to major modifications, shall renew the ONWS operating permit annually and pay the required fees. If the purveyor fails to renew the operating permit or pay the required fees, the operating permit is no longer valid, and the purveyor shall:

(a) Cease ONWS operations.

(b) Notify the department.

[]

NEW SECTION

**WAC 246-275-410** **Qualified operator in responsible charge.** The owner shall directly employ or maintain a service contract with a qualified operator who will be in responsible charge of the daily and ongoing operations and maintenance of the ONWS prior to operating in conditional startup mode.

(1) **Notification.** The owner shall notify the department in writing within 30 days of replacement of the qualified operator in responsible charge.

(2) **Operator qualifications.** The operator in responsible charge must be duly qualified to conduct the operations, maintenance, and monitoring required to assure continuous compliance with the requirements of this chapter. To determine qualifications, the qualified operator in responsible charge must have expertise commensurate with the complexity of the operation and maintenance of the ONWS. This may include, but is not limited to:

(a) For ONWS that use blackwater and graywater as a source water, any of the following:

(i) Relevant experience with each treatment unit process of the ONWS.

(ii) A wastewater, reclaimed water, or on-site nonpotable reuse system certification issued by a U.S. state agency.

(iii) National ONWS operator certification for blackwater and graywater systems.

(b) For ONWS that do not use blackwater or graywater as a source water, any of the following:

(i) Relevant experience with each treatment unit process of the ONWS.

(ii) A wastewater, reclaimed water, or on-site nonpotable reuse system certification issued by a U.S. state agency.

(iii) National ONWS operator certification.

(3) **Duties of a qualified operator in responsible charge.**

(a) A qualified operator in responsible charge shall:

(i) Operate the ONWS with due care and diligence to protect public health and the environment in compliance with the ONWS operating permit, this chapter, applicable local ordinances and codes, and state and federal laws, rules, and regulations.

(ii) Perform only the duties consistent with the operator's experience, skills, abilities, or level of certification.

(iii) Inform the owner if a required action or correction is inconsistent with the operator's experience, skills, abilities, or level of certification.

(b) A qualified operator designated by the owner to be in responsible charge shall perform or manage the ONWS operational and maintenance activities in this chapter and according to acceptable public health practices and industry standards.

(c) A qualified operator in responsible charge or designee must be available on-site or able to be contacted by telephone or other electronic communication 24 hours per day and able to initiate appropriate action within two hours. Appropriate action may include, but is not limited to:

(i) Making necessary repairs or resolving problems.

(ii) Directing staff or contractors to make necessary repairs or resolve problems.

(d) The duties of a qualified operator in responsible charge or designee include, but are not limited to:

(i) Conducting water quality monitoring, maintaining adequate records, and taking follow-up action, if necessary, to comply with local, state, and federal ONWS regulations.

(ii) Implementing preventive maintenance programs, inspecting treatment, collection systems, distribution systems, and other ONWS components for malfunctions, maintaining adequate records, and making needed repairs.

(iii) Analyzing, reviewing, and maintaining records of instrument readings and laboratory test results, determining the location and causes of any malfunctions, adjusting various treatment unit processes or other components.

(iv) Implementing a cross-connection control program, under WAC 246-275-415.

(v) Determining and implementing remedial actions in an emergency and, if applicable, following departmental directives.

(vi) Cooperating during an inspection under WAC 246-275-150.

(vii) Providing required records and reports to the department or its representative upon request.

(viii) Reporting system issues, nonfunctioning ONWS components, and any other condition that jeopardizes public health, the environment, or operating permit compliance.

(ix) Providing written notification to the department within 30 days of either:

(A) Starting operations of a ONWS.

(B) Ending operations of a ONWS in accordance with WAC 246-275-430.

(e) The duties of a qualified operator in responsible charge required in this chapter do not relieve the owner or purveyor of the responsibility to comply with the requirements of this chapter.

[]

NEW SECTION

**WAC 246-275-415** **Cross-connection control and makeup water supply.** (1) **Cross-connection control required.** All potable water connections to potable drinking water systems serving premises with treated nonpotable water must have either an:

(a) Approved air gap installed for premises isolation.

(b) Approved RPBA or RPDA installed for premises isolation in combination with an approved air gap at the nonpotable water storage tank.

(2) **Cross-connection testing.** Cross-connection testing must be completed in accordance with WAC 51-56-1500 and 51-56-1600.

(3) **Makeup water requirements.** Excluding irrigation-only systems, ONWS must include a source of makeup water.

(a) Makeup water must be provided via an approved air gap.

(b) ONWS are not required to maintain a chlorine residual when temporarily operating with makeup water.

[]

NEW SECTION

**WAC 246-275-420** **Operations and maintenance.** The purveyor shall operate and maintain ONWS, distribution systems, and other systems of control installed by the purveyor to achieve compliance with this chapter and the terms and conditions of the operating permit.

(1) **Nuisance.** The treatment, collection, storage, or distribution of source waters, the diversion of inadequately treated nonpotable water, or the use of treated nonpotable water must not create a nuisance.

(2) **Water quality.** Treated nonpotable water must continuously achieve the log reduction targets under WAC 246-275-300, Table 1 and meet water quality standards under WAC 246-275-310, Table 3. Inadequately treated nonpotable water that does not meet log reduction targets or the water quality standards must be diverted as specified in WAC 246-275-315(3).

(3) **O&M manual.** Purveyors shall operate the system based on the site-specific O&M manual for the ONWS under WAC 246-275-440.

(4) **Periodic inspection.** The qualified operator shall conduct periodic inspections of all facilities to monitor and assure compliance with conditions of the operating permit, the O&M manual, chapter 51-56 WAC, this chapter, and, for district-scale projects, the legal agreement.

[]

NEW SECTION

**WAC 246-275-425** **Change of ownership.** Within 30 days of a change of ownership of the ONWS, the new owner must report the change to the department by submitting completed ONWS change of ownership, affidavit of qualification, and facility inventory forms.

[]

NEW SECTION

**WAC 246-275-430** **Abandonment.** Purveyors shall have an abandonment plan in accordance with chapter 51-56 WAC included, reviewed, and approved, as an element of the O&M manual under WAC 246-275-440.

[]

NEW SECTION

**WAC 246-275-435** **Legal agreement.** Purveyors of a district-scale project shall enter an executed, enforceable, legal agreement defining the roles and responsibilities of each property owner or entity in relation to the maintenance and use of the system. The legal agreement must require that only the purveyor and authorized qualified operators are allowed to alter or maintain the ONWS. The purveyor shall include the legal agreement in the O&M manual under WAC 246-275-440.

[]

NEW SECTION

**WAC 246-275-440** **Operations and maintenance manual (O&M manual).** (1) **O&M manual requirements.** Purveyors shall develop and implement a site-specific O&M manual for the ONWS. The O&M manual must be:

(a) Submitted to the department for review and approval before beginning final use mode.

(b) Reviewed annually and updated as appropriate.

(c) Kept on the premises in one or more locations specified in the O&M manual.

(2) **Contents of the O&M manual.** O&M manual content and details must be consistent with the size, complexity, past performance, implementation scale, source waters, and end uses of the ONWS and include:

(a) **Physical system.** Detailed diagram of the entire system and the location of ONWS components including, but not limited to:

(i) General facility information, including:

(A) Location of approved air gaps, other approved backflow prevention assemblies, flow meters, and sample ports.

(B) Exact locations where the O&M manual and copies will be kept.

(ii) Makeup water source under WAC 246-275-415.

(iii) Public access restrictions in place to minimize human contact with treated nonpotable water.

(b) **ONWS operations.** Instructions for operating and maintaining the system including, but not limited to:

(i) ONWS operations, including treatment process operations, instruments and alarms, and any chemicals used.

(ii) Equipment and instrument product manufacturer literature that specifically addresses product installation, recommendations, and maintenance.

(iii) Cooling tower water management plan.

(c) **Water quality.** Details on maintaining the required water quality as determined by the department including, but not limited to:

(i) Conditional startup mode final report.

(ii) Compliance monitoring plan including treatment system monitoring, pathogen reduction compliance, and water quality sampling.

(iii) Provisions for monitoring and managing failure of treatment unit processes.

(d) **Deactivation.** Details on deactivating the system for maintenance, repair, or other purposes, including, at a minimum, an abandonment plan in compliance with WAC 246-275-430.

(e) **Maintenance schedule.** Applicable testing, inspection, and maintenance frequencies for treatment and monitoring equipment, approved air gaps, and approved backflow prevention assemblies.

(f) **Contact information.**

(i) A method of contacting the manufacturers of ONWS components.

(ii) Training and personnel, including names and contact information for key personnel, schedules, and qualified operator information.

(g) **System records.** Including, but not limited to:

(i) Current, signed facility inventory.

(ii) Operating permit.

(iii) Annual reports from the past five years.

(iv) Current, signed affidavit of qualification on a form provided by the department.

(v) Manufacturer's product manuals and instructions for equipment and instrument installation requirements and operations and maintenance recommendations.

(vi) For ONWS that serve district-scale projects, the legal agreement under WAC 246-275-435.

(vii) For systems granted a waiver of compliance or extension of compliance under WAC 246-275-145, a copy of the waiver and the most recent notice satisfying WAC 246-275-145(4).

(3) **Additional required documentation.** The department may require additional information or changes to an O&M manual or its components as necessary to protect public health and the environment.

[]

PART 5 MONITORING, REPORTING, NOTIFICATION, AND RECORDKEEPING

NEW SECTION

**WAC 246-275-500** **Monitoring and sampling.** (1) **Parameters, locations, and frequencies.** Purveyors shall monitor water quality parameters at the locations and at the frequencies in Table 4 of this section during the conditional startup mode performance period and in Table 5 of this section during final use mode.

(2) **Quality assurance.** Sample collection, transportation, and analysis must meet quality assurance and quality control procedures of an accredited laboratory, including maintenance of required hold times and temperatures. The purveyor shall allow the department to be present during required water quality sample collections.

(3) **Proper use of equipment.** Equipment and instruments used to comply with the treatment and monitoring requirements under this chapter must be calibrated, maintained, and operated consistent with manufacturer's installation, operating and maintenance instructions and recommendations.

(4) **Laboratory accreditation and standard methods.** Microbial, BOD5, TSS, and any other parameters that require laboratory capability must be analyzed by an accredited laboratory in accordance with an approved standard method or through department-approved continuous monitoring devices as detailed in the engineering report required under WAC 246-275-210.

(5) **Signature requirements.** Laboratory reports must be signed and dated by the laboratory director or a designee.

**Table 4: Conditional Startup Mode Monitoring Frequencies and Locations**

| **Parameter** | **Roof runoff, stormwater, foundation drainage,**  **AC condensate** | **Graywater** | **Blackwater** | **Other** |
| --- | --- | --- | --- | --- |
| LRTs | Continuously using surrogate parameters at locations identified in the approved engineering report (see WAC 246-275-305). | | | |
| Secondary Free Chlorine Residual | If required by WAC 246-275-315(7), at the entry of the distribution system either daily or continuously - As approved in engineering report, and weekly at a representative location at the end of the distribution system. | | | |
| HPC | Two samples monthly for 12 months. (One at entry to distribution and one at a representative location at the end of distribution system.) (Same location as secondary chlorine residual if WAC 246-275-315(7) requires a residual.) | | Two samples monthly for 12 months. (One at entry to the distribution and at a representative location at the end of distribution system.) | As reasonably determined by the department. |
| pH | Continuously at entry to distribution. | | | |
| Turbidity - Media or membrane filter | Continuously in filter output. | | | |
| BOD5 and TSS | N/A | Weekly at a location after treatment and prior to entry to distribution. | | As reasonably determined by the department. |
| Total source water treated/flow rates | As described in the engineering report under WAC 246-275-210. | | | |

**Table 5: Final Use Mode Monitoring Frequencies and Locations**

| **Parameter** | **Roof runoff, stormwater, foundation drainage,**  **AC condensate** | **Graywater** | **Blackwater** | **Other** |
| --- | --- | --- | --- | --- |
| LRTs | Continuously using surrogate parameters at locations identified in the approved engineering report (see WAC 246-275-305). | | | |
| Secondary Disinfection - Free Chlorine Residual | If required by WAC 246-275-315(7), at the entry of the distribution system either daily or continuously - As approved in engineering report, and weekly at a representative location at the end of the distribution system. | | | |
| HPC | Two samples monthly, one sample at entry to distribution and one sample at the end of distribution system. (Same location as secondary chlorine residual if WAC 246-275-315(7) requires a residual.) | | | |
| pH | Continuously at entry to distribution. | | | |
| Turbidity - Media or membrane filter | Continuously in filter output. | | | |
| BOD5 and TSS | N/A | Monthly at a location after treatment and prior to entry to distribution. | | |
| Total source water treated/flow rates | As described in the engineering report under WAC 246-275-210. | | | |

[]

NEW SECTION

**WAC 246-275-505** **Routine water quality reporting.** (1) **Conditional startup mode.** On or before the 10th day of each month during conditional startup, the purveyor shall report all required water quality laboratory results and surrogate parameters instrumentation summaries from the previous month. The data must be reported to the department on a signed DMR form provided by the department and include descriptions of any breakdowns, treatment upsets or disruptions, bypasses, odors, complaints, or other system operation anomalies.

(2) **Final use mode.** During final use mode, purveyors shall report the following:

(a) Purveyors must submit an annual report to the department under WAC 246-275-510 in addition to notification requirements in WAC 246-275-515.

(b) Purveyors who operate ONWS that use blackwater as a source water shall submit a quarterly DMR to the department.

[]

NEW SECTION

**WAC 246-275-510** **Annual reporting.** Purveyors shall submit an annual report each calendar year to the department by a date specified by the department. The annual report form may be provided by the department and must contain, at a minimum:

(1) **Compliance.** A description of compliance with this chapter and the terms and conditions established in the operating permit.

(2) **Complaints.** A summary of complaints received from users and responses.

(3) **Malfunctions.** A complete list of malfunctions requiring diversion, including:

(a) The date of each malfunction.

(b) A description of the malfunction.

(c) Actions taken to resolve the malfunction.

(d) Whether the malfunction has been resolved and the date.

(4) **Water quality.** A water quality summary, including:

(a) Required HPC, BOD5, and TSS sample results.

(b) Monthly maximum and minimum values from LRT surrogate parameters, free chlorine residual, pH, and turbidity monitoring.

(c) Number of days treatment operations were diverted.

(d) Monitoring results outside of applicable water quality limits in WAC 246-275-310, Table 3 that did not require immediate diversion and how the treatment or monitoring inadequate performance was resolved.

(e) HPC results compared to conditional startup mode HPC results.

(5) **Population.** Population served including, but not limited to, the maximum:

(a) Number of occupied, full-time domestic units.

(b) Approximate daily employee population.

(c) Approximate daily transient population.

(6) **Volume.** Annual volume of:

(a) Potable water from the public water systems.

(b) Treated nonpotable water for approved end uses.

(c) Makeup water for approved end uses.

(7) **Signatures.** Signatures of the qualified operator in responsible charge, the purveyor, and the ONWS owner if different from the purveyor.

[]

NEW SECTION

**WAC 246-275-515** **Malfunction notification and reporting.** (1) **Failure to divert.** The purveyor shall notify the department by email and phone within 24 hours when a source water or inadequately treated nonpotable water enters the treated nonpotable water distribution system, whether in conditional startup or final use mode.

(2) **Departmental notification.** Initial notification to the department by email and phone must take place within 24 hours of when the purveyor becomes aware of a malfunction and include, as applicable:

(a) A description of the malfunction, including a location description.

(b) A description of any component involved in the malfunction.

(c) A description of the suspected causes.

(d) Planned diagnostic and mitigation steps.

(e) The estimated date and time when the malfunction or the effects of the malfunction start and stop or will be stopped.

(3) **Other regulatory action.** The purveyor shall notify the department by email and phone within 10 business days of any corrective action, violation, penalty, or a failure to obtain required permits from an authority having jurisdiction other than the department.

(4) **User notification.** Purveyors shall notify all users by mail, email, and posted notices within 15 business days of notifying the department and upon request. All communication with users must use clear, concise, and simple language and be provided in languages commonly understood by the population served to describe in an accurate and understandable manner the circumstances for which the purveyor is required to notify the department under subsection (1) of this section. This includes, but is not limited to, subsection (2)(a) through (e) of this section.

(5) **Reporting.** Malfunctions must be reported in DMR and annual report submittals.

[]

NEW SECTION

**WAC 246-275-520** **Recordkeeping.** (1) **Records.** The owner and qualified operator in responsible charge shall keep system records on-site including, but not limited to:

(a) Current ONWS operating permit.

(b) Signed results delivered by the accredited laboratory and evidence of chain of custody.

(c) DMR.

(d) Annual report.

(e) Notifications as described in WAC 246-275-515.

(f) A log of all calibrations, maintenance, and major changes in operation.

(g) A log of all system auto-generated alarms, causes, and corrective actions.

(h) Record drawings.

(2) **Retention.** Purveyors must indefinitely retain engineering documents describing any part of the ONWS, including engineering reports, construction documents, validation engineering reports, and conditional startup mode final reports. Other ONWS records must be kept for at least five years.

(3) **Inspection.** ONWS records must be made available for inspection by the department.

[]

NEW SECTION

**WAC 246-275-525** **User confidence.** (1) **Signage.** Signage must be provided and maintained as required by chapter 51-56 WAC.

(2) **Notification.** User notification of a malfunction must be provided under WAC 246-275-515(3).

(3) **Complaints.** The purveyor shall maintain a complete list of user complaints and responses. The purveyor shall address user complaints in a timely manner and provide a written response to the user if user contact information is provided.

(4) **Annual report.** Purveyors shall provide a copy of the most recent annual report satisfying WAC 246-275-510 to any ONWS user upon request.

[]

PART 6 COMPLIANCE AND ENFORCEMENT

NEW SECTION

**WAC 246-275-600** **Modification, suspension, and revocation of permits.** (1) **Operating permit required.** The generation, distribution, or use of treated nonpotable water from an ONWS without an operating permit, or in a manner that violates this chapter, the terms and conditions of an operating permit, order, or directive issued under this chapter, is prohibited.

(2) **Immediate revocation or suspension allowed.** The department may immediately revoke or suspend an operating permit issued under this chapter if there is an immediate and unacceptable risk to public or environmental health.

(3) **Cause.** Any operating permit issued for an ONWS may be modified, revoked, or suspended by the department, if the department determines continued operation of the system poses unacceptable risk to public health or the environment for any reason including, but not limited to:

(a) There is a change in any condition that requires the ONWS to temporarily or permanently limit or stop operating.

(b) A ONWS failure or the need for a repair or replacement of an ONWS component that is the result of neglect or poor management practices.

(c) The operating permit was obtained by fraud or with any material misrepresentation.

(d) The ONWS was built without applicable building and plumbing permits issued by the department or local authorities within its jurisdiction. This includes permits issued by local authorities with jurisdiction for systems that serve district-scale projects with collection or distribution pipes within the public right-of-way.

(e) It is necessary or becomes necessary to comply with applicable water quality standards under chapter 90.48 RCW.

(f) The owner has not paid the operating permit fee under WAC 246-275-990.

(g) Purveyors or any employee of a purveyor has violated any federal or state laws, regulations, or rules, or local ordinances or codes while operating ONWS and the purveyor had, or should have had, actual or constructive knowledge the illegal conduct was occurring.

(h) The ONWS is being managed, conducted, or maintained without regard for public health or the environment.

(i) The purveyor, any employee of the purveyor, or any entity identified in a legal agreement with the purveyor refused to allow the department to inspect the premises or the operations of the ONWS.

[]

NEW SECTION

**WAC 246-275-605** **Notice of violations, enforcement actions, and penalties.** The department shall enforce this chapter in accordance with RCW 90.46.250 through 90.46.290 and chapter 246-10 WAC.

(1) **Noncompliance.** When any person is out of compliance with a law or rule regulating an ONWS, the department may:

(a) Initiate enforcement actions, regardless of any prior approvals issued.

(b) Initiate enforcement action against the purveyor to bring the system into compliance. Enforcement actions may include, but are not limited to, any one or a combination of the following:

(i) A conference between the department and the owner to explore facts and resolve problems.

(ii) An extension of compliance as provided under WAC 246-275-145(3).

(iii) Issuing a notice of violation instructing or requiring corrective measures, which may include, but is not limited to:

(A) Operating permit conditions, approval conditions, and compliance schedules.

(B) A departmental order:

(I) Requiring submission of project reports, construction documents, and construction report forms.

(II) Requiring specific actions or ceasing unacceptable activities within a designated period.

(III) To stop work and to refrain from using any portion of an ONWS or making any improvements to the ONWS in the event of a public health emergency or until all required permits, certifications, approvals, and determinations to proceed are obtained.

(IV) To stop work on ONWS construction activities occurring or scheduled to occur before receiving department approval, determination to proceed, or an operating permit.

(c) Enjoin other actions as needed to protect public health and the environment.

(i) The department of health may enjoin a violation or threatened violation of this chapter or chapter 90.46 RCW in the superior court in the county in which the system is located or in Thurston County.

(ii) Local jurisdictions may enjoin a violation or threatened violation of this chapter or chapter 90.46 RCW under their existing authorities and in the superior court in the county in which the system is located.

(d) Impose civil penalties in accordance with existing state and local authorities.

(e) Initiate other authorized proceedings to ensure public health, safety, and environmental protection.

(2) **Legal action.** The state attorney general or local prosecutor may take criminal or civil legal action.

[]

NEW SECTION

**WAC 246-275-610** **Appeals and adjudicative proceedings.** (1) **Purveyor rights.** Purveyors have the right to an adjudicative proceeding to contest the decision of the department.

(2) **Department of health.** A person upon whom the department of health imposes a civil penalty has the right to an adjudicative proceeding.

(3) **Local authority.** A person upon whom a local authority with jurisdiction imposes a civil penalty has the right to an adjudicative proceeding.

(4) **Application.** A person upon whom the department imposes a civil penalty or issues a notice of denial, suspension, modification, or revocation of a permit; approval; or determination to proceed may contest a department decision within 28 calendar days of receipt of the decision by filing a written application for an adjudicative proceeding by a method showing proof of receipt with the administrative hearing's unit, department of health. Include in or with the application the following:

(a) A specific statement of the issue or issues and law involved.

(b) The grounds for contesting the department decision.

(c) A copy of the contested department decision.

(5) **Scope.** This chapter, chapter 246-10 WAC, and chapter 34.05 RCW govern adjudicative proceedings.

[]

PART 9 FEES

NEW SECTION

**WAC 246-275-990** **Fees.** (1) **Local fees.** A local health jurisdiction or health officer may charge service fees and operating permit fees as authorized under RCW 70.05.060 or 70.46.120 to either partially or fully administer, enforce, and carryout the responsibilities under this chapter when:

(a) A JPR has been established between the department of health and a local health jurisdiction or health officer under WAC 246-275-135(2) to either partially or fully administer, enforce, and carryout the responsibilities under this chapter.

(b) A joint or shared services agreement is established between local health jurisdictions or health officers, or both, under WAC 246-275-135(3) to either partially or fully administer, enforce, and carryout the responsibilities under this chapter on behalf of other local health jurisdictions or health officers, or both.

(2) **Department of health fees.** Department of health fees for ONWS must be paid in accordance with chapter 246-272 WAC.

[]