Title 22, CALIFORNIA CODE OF REGULATIONS

Division 4, Chapter 3.5. Onsite Treatment and Reuse of Nonpotable Water

Article 1. General

Adopt Section 60600. as follows:

Section 60600. Definitions.

(a) "Air-gap separation" means a physical vertical separation of at least two (2) times the inside pipe diameter (or the largest inside pipe diameter, when multiple pipes are present) between the free-flowing discharge end of a potable water supply pipeline and the flood level of an open or non-pressurized receiving vessel, and in no case can the physical vertical separation be less than one (1) inch.

(b) "ANSI" means American National Standards Institute.

(c) "Backflow prevention assembly" means a mechanical assembly designed and constructed to prevent backflow, such that while in-line it can be repaired, and its ability to prevent backflow, as designed, can be field tested, inspected and evaluated.

(d) "Baffling factor" means the ratio of the actual contact time to the theoretical hydraulic detention time. For the purpose of these regulations, actual contact time is T10; and theoretical hydraulic detention time is reactor volume divided by flow rate.

(e) "Blackwater" means wastewater originating from toilets, urinals, and/or kitchen sources, such as from kitchen sinks or dishwashers.

(f) "Calibrated field meter" means a field test instrument (such as one used to test pH, temperature, dissolved oxygen, and electrical conductivity) that is used in accordance with the following conditions:

(1) The instrument is field-calibrated at the frequency recommended by the manufacturer prior to use;

(2) The instrument is serviced at the recommended service frequency by the manufacturer or manufacturer-authorized service provider; and

(3) Field calibration reports are maintained and available for inspection by the local jurisdiction for at least three years.

(g) “Certified backflow prevention assembly tester” means a person who is certified as a backflow prevention assembly tester by a certifying organization recognized by the State Board pursuant to the State Board Cross Connection Control Policy Handbook adopted pursuant to section 116407 of the Health and Safety Code.

(h) “Certified cross-connection control specialist” means a person who is a certified as a cross-connection control specialist from a certifying organization recognized by the State Board pursuant to the State Board Cross Connection Control Policy Handbook adopted pursuant to section 116407 of the Health and Safety Code.

(i) “Challenge test” means a study comparing a pathogen surrogate parameter, or indicator compound concentration between the influent and effluent of a treatment process to determine the removal capacity of the treatment process. The influent concentration must be high enough to ensure that a measurable concentration is detected in the effluent.

(j) “Commercial building” means a building, the operations of which will affect commerce and is intended for nonresidential use.

(k) “Commissioning” means the procedures used by the responsible entity to inspect, test, and commence operation of an OTNWS and to train duly authorized agents or other staff to operate the OTNWS.

(l) “Community sewer system” means any system of pipes, pump stations, sewer lines, or other conveyances upstream of a wastewater treatment plant headworks that collects and/or conveys untreated or partially treated wastewater to a publicly-owned wastewater treatment facility.

(m) “Continuous process verification monitoring” means ongoing confirmation of system performance using sensors for continuous observation of selected parameters, including but not limited to, surrogate parameters that are correlated with pathogen log reduction target requirements.

(n) “Critical limit” means a maximum and/or minimum value of a continuously monitored parameter which indicates that a treatment process or an operation is y controlling the pathogen risk.

(o) “Cross-connection” means a connection or arrangement, physical or otherwise, between a potable water supply system and a plumbing fixture or a tank, pipeline, receptor, equipment, or device through which it may be possible for nonpotable, used, unclean, polluted, and/or contaminated water or other substances to enter a part of such potable water system under any condition.

(p) “CT” means the product of free chlorine residual and T10 measured at the same point, measured in milligram-minutes per liter (mg-min/L).

(q) “District-scale project” means an OTNWS for a defined service area and untreated alternate water source collection area that includes more than one multifamily building, commercial building, mixed-use building, or a combination of such buildings. A district-scale project may be located on one or more land parcels and may cross public rights-of-way.

(r) “Duly authorized agent” means a person legally designated by a responsible entity as having authority for the operation and maintenance of the OTNWS. The authorization must be made in writing by the responsible entity and submitted to the local jurisdiction for local jurisdiction approval.

(s) “Field verification” means a performance confirmation study conducted using challenge testing, including surrogate microorganisms and/or other non-biological surrogates, during the commissioning period.

(t) “Graywater” has the same meaning as defined in section 17922.12 of the Health and Safety Code.

(u) “Local jurisdiction” means a city, county, or city and county that has established a program for OTNWSs.

(v) “Log reduction” means the logarithm base 10 of the ratio of the levels of a pathogenic organism or other contaminant before and after treatment. A 1-log reduction is equal to 90% removal, 2-log reduction to 99% removal, 3-log reduction to 99.9% removal, and so on.

(w) “Log Reduction Target” or “LRT” means the log reduction required for the specified pathogen group to achieve an acceptable level of risk to individuals.

(x) “MBR” means membrane bioreactor.

(y) “Mixed-use building” means a building that contains both multifamily residential and commercial uses.

(z) “Multifamily residential building” means a building containing three or more dwelling units.

(aa) “Nonpotable water” means water that does not meet the definition of potable water.

(bb) “Normal operating condition” means the operational condition where the treatment train influent and effluent quantity and quality are consistently within the expected operational parameters.

(cc) “NSF” means National Sanitation Foundation.

(dd) “NTU” has the same meaning as defined in section 60301.630.

(ee) “Onsite treated nonpotable water” means nonpotable water that has been collected, treated, and intended to be used on-site and is suitable for specified uses.

(ff) “Onsite Treated Nonpotable Water System” or “OTNWS” means a nonpotable water treatment system that does all of the following:

(1) Collects and treats one or more of the untreated alternate water sources as described in section 60610(a) and (b);

(2) Distributes the treated water for use onsite (within or surrounding a building(s)) for nonpotable purposes; and

(3) Connects to a community sewer system as its only means for discharge of waste, regardless of whether onsite wastewater is used as an OTNWS source water.

(gg) “Onsite wastewater” means comingled graywater and blackwater.

(hh) “Potable water” has the same meaning as defined in the 2022 California Plumbing Code section 218.0.

(ii) “Regional Board” means any California Regional Water Quality Control Board.

(jj) “Responsible entity” means the person(s), corporation(s), or any other form of legal entity that holds a valid permit granted by the local jurisdiction to operate an OTNWS and has the necessary legal authority and control to ensure compliance with this Chapter.

(kk) “Roof runoff” means precipitation from rain or snowmelt events that is collected directly from a roof surface not subject to public access.

(ll) “State Board” means State Water Resources Control Board.

(mm) “Stormwater” means precipitation runoff from rain or snowmelt events that flows over land and/or impervious surfaces such as, but not limited to, streets and parking lots. Stormwater also includes runoff from roofs with public access.

(nn) “Supervisory control and data acquisition system” or “SCADA” means a computer-monitored alarm, response, control, and data acquisition system used to monitor and adjust treatment processes and facilities.

(oo) “Surrogate parameter” or “surrogate” means a measurable chemical or physical property, microorganism, or chemical that has been demonstrated to provide a direct correlation with the concentration of pathogen; that may be used to monitor the efficacy of pathogen reduction by a treatment process; and/or that provides an indication of a treatment process failure.

(pp) “T10” means the time it takes for 10% of the incoming water to exit the disinfection reactor, measured in minutes.

(qq) “Treatment train” means a group or assemblage of physical, chemical, and biological treatment processes that conditions or treats water to achieve a specific water quality objective.

(rr) “Untreated alternate water source” means a source of nonpotable water that may include any of the following: graywater, roof runoff, stormwater, and onsite wastewater.

(ss) “UV” means ultraviolet light.

(tt) “Validation” means a demonstration of the pathogen or chemical contaminant reduction capacity of a treatment process.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code; and Section 17922.12, Health and Safety Code.

Adopt Section 60602. as follows:

Section 60602. Limitations of this Chapter.

(a) This Chapter does not apply to untreated graywater systems that are used exclusively for subsurface irrigation and are regulated by Chapter 15 (commencing with section 1501.0) of the California Plumbing Code (Part 5 of Title 24 of the California Code of Regulations). For the purpose of this section, graywater is as defined in the California Plumbing Code.

(b) This Chapter does not apply to untreated rainwater systems that are used exclusively for surface, subsurface, or drip irrigation and are regulated by Chapter 16 (commencing with section 1601.0) of the California Plumbing Code (Part 5 of Title 24 of the California Code of Regulations). For the purpose of this section, rainwater is as defined in the California Plumbing Code.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60604. as follows:

Section 60604. Implementation Scale.

(a) Applicability of these regulations is limited to an OTNWS that serves a multifamily residential building, a commercial building, or a mixed-use building, or a combination of such buildings in a district-scale project.

(b) If OTNWS source water collection, treatment, or distribution system is located on more than one land parcel, the responsible entity must provide the local jurisdiction a proof of property covenant filed at the local county recorder’s office describing that the combination of parcels are served by OTNWS source water collection and onsite treated nonpotable water distribution, and that the sale of one of the participating parcel may impact the source water collection, treatment, and distribution of onsite treated nonpotable water.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60606. as follows:

Section 60606. Local Jurisdiction Annual Report.

Local jurisdictions must submit an annual report to the State Board by February 1st following the reporting year. The reporting year commences on January 1 and ends on December 31 of every year. The annual report must include the following information for the reporting year:

(a) Number, location, building type, and description of permits issued for the following OTNWSs within the local jurisdictional boundary:

(1) Existing OTNWSs;

(2) New OTNWSs which were placed into service during for the first time during the reporting year, including an OTNWS which replaced a previously permitted OTNWS; and

(3) Any OTNWS which was permanently taken out of service during the reporting year;

(b) Volume and types of nonpotable end uses for each untreated alternate water source that is treated by each OTNWS;

(c) Summary of reported minimum and maximum values for continuous process verification monitoring parameters organized by untreated alternate water source types;

(d) Summary of any violations and corrective actions taken for any OTNWS;

(e) Number and location of complaints and/or malfunctions pertaining to any OTNWS's operation and maintenance, and identification of any OTNWS which was investigated and how any operational or maintenance issues were resolved; and

(f) Number and summary of site inspections conducted by the local jurisdiction.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60608. as follows:

Section 60608. OTNWS In Operation Before the Effective Date of the Regulations.

An OTNWS that is in operation before the effective date of the regulations must comply with the requirements of this Chapter within two (2) years of the effective date. If the permitting local jurisdiction finds that the project proponent is working to come into compliance with the requirements of this Chapter, but due to extenuating circumstances related to the engineering, repair, or replacement of the OTNWS a further extension is warranted, the local jurisdiction may grant an extension to comply with the regulations not to exceed five (5) years after the effective date of the regulations.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 2. Sources of Onsite Treated Nonpotable Water

Adopt Section 60610. as follows:

Section 60610. Source Specifications.

(a) The requirements of this Chapter apply to any OTNWS treating roof runoff, stormwater, graywater, or onsite wastewater in whole or in part.

(b) Untreated alternate water sources must be collected, treated, and used within the defined project boundaries as described in the project's engineering report in accordance with section 60680.

(c) Unless otherwise approved as a supplemental source of water for an OTNWS in accordance with section 60670, sources not addressed in these regulations are prohibited from entering the OTNWS.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 3. Uses of Onsite Treated Nonpotable Water

Adopt Section 60620. as follows:

Section 60620. Allowed Indoor Uses.

(a) Allowable indoor uses of onsite treated nonpotable water are limited to toilet and urinal flushing, clothes washing, and drain trap priming.

(b) Use of onsite treated nonpotable water for clothes washing is allowed if non-potable hot water is available for clothes washing by either:

(1) Clothes washers that have an electric tankless heater that heats non-potable water at the point of use; or

(2) A building that has a boiler system that provides non-potable hot water to the clothes washer.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60622. as follows:

Section 60622. Allowed Outdoor Uses.

(a) Allowable outdoor uses of onsite treated nonpotable water are limited to ornamental plant irrigation, landscape irrigation, dust suppression, decorative fountains, and car washing.

(b) Outdoor use of onsite treated nonpotable water for decorative fountains must meet the pathogen log reduction targets for indoor use specified in section 60630.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60624. as follows:

Section 60624. Use Area Requirements.

(a) Onsite treated nonpotable water use must not create a nuisance condition or odor.

(b) Spray, mist, or runoff from outdoor use of onsite treated nonpotable water must not enter dwellings, designated outdoor eating areas, or food handling facilities.

(c) Drinking water fountains must be protected against contact with onsite treated nonpotable water spray, mist, or runoff.

(d) Onsite treated nonpotable water used for irrigation or dust suppression must be used in a manner that will not result in excessive ponding, pooling, or runoff.

(e) Onsite treated nonpotable water used outdoors in areas accessible to the public must be applied at times when contact with the public is minimized.

(f) There can be no physical connection between any OTNWS and any separate system conveying or storing potable water. A temporary connection from an OTNWS to a potable water supply may be temporarily allowed for initial cross-connection testing, prior to introduction of onsite treated nonpotable water into the OTNWS, in accordance with section 60704.

(g) The portions of the OTNWS that are in areas subject to access by the general public must not include any hose bibs. The OTNWS must only use quick couplers that are incompatible with those used on the potable water system on the portions of the onsite treated nonpotable water piping system in areas subject to public access.

(h) All use areas where onsite treated nonpotable water is used must be posted with signs that are visible in accordance with section 60692.

(i) Indoor uses of onsite treated nonpotable water are prohibited for any building that produces or processes food products or beverages. For purposes of this

subsection, cafeterias or snack bars in a building whose primary function does not involve the production or processing of foods or beverages are not considered facilities that produce or process foods or beverages.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 4. Pathogen Control

Adopt Section 60630. as follows:

Section 60630. Pathogen Log Reduction Targets.

(a) An OTNWS must be designed and operated to achieve the minimum pathogen log reduction targets for onsite wastewater, graywater, stormwater, and roof runoff as set forth in Table 60630-1 using a pathogen control treatment train meeting the requirements of section 60632 or an alternative to a pathogen control treatment train meeting the requirements of section 60634.

(b) When multiple types of untreated alternate water sources are blended to supply the OTNWS, the most restrictive pathogen log reduction target must be met.

Table 60630-1. Pathogen log reduction targets for OTNWS

Untreated alternate water source	Use type	Enteric virus	*Giardia*	*Cryptosporidium*
Onsite wastewater	*Indoor use*	*8.0*	*6.5*	*5.5*
Onsite wastewater	*Outdoor use*	*7.5*	*5.5*	*5.0*
Stormwater	*Indoor use*	*7.0*	*5.5*	*4.5*
Stormwater	*Outdoor use*	*6.5*	*4.5*	*4.0*
Graywater	*Indoor use*	*6.0*	*4.5*	*3.5*
Graywater	*Outdoor use*	*5.5*	*3.5*	*3.0*
Roof runoff	*Indoor use*	*-*	*1.5*	*-*
Roof runoff	*Outdoor use*	*-*	*1.0*	*-*

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60632. as follows:

Section 60632. Pathogen Control Treatment Trains.

(a) An OTNWS must use one of the pathogen control treatment trains prescribed in Table 60632-1 meeting the corresponding specification for each treatment process described in subsections (b) through (e) and must be capable of demonstrating the log reduction targets pursuant to section 60642.

Table 60632-1. Pathogen control treatment train for untreated alternate water sources

Pathogen control treatment train	Untreated alternate water source
Train A: MBR - UV - Chlorination	*Onsite wastewater, stormwater, graywater, roof runoff*
Train B: MBR - UV - Chlorination	*Stormwater, graywater, roof runoff*
Train C: MBR - UV - Chlorination	*Graywater, roof runoff*
Train D: MBR - UV	*Graywater, roof runoff*
Train E: Membrane filtration - UV - Chlorination	*Graywater, roof runoff*
Train F: UV	*Roof runoff*

(b) UV disinfection process must be tested and certified as meeting the specifications of NSF/ANSI 55-2022 Ultraviolet Microbiological Water Treatment Systems (September 2022), which is hereby incorporated by reference, for Class A UV disinfection systems with UV sensor and alarm set point. This requirement must be met under testing conducted by a product certification organization accredited for this purpose by ANSI. If UV reactors are installed in series, installation of such reactors must conform to the specifications provided by the UV reactor manufacturer.

(c) An MBR process must utilize hollow fiber or flat sheet membranes with pore sizes up to 0.4 micrometers operating in a submerged configuration.

(d) A chlorine disinfection process that provides a CT value specified for the respective pathogen control treatment trains through continuous process monitoring specified in section 60642.

(e) Membrane filtration process must use a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtrate does not exceed any of the following:

(1) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(2) 0.5 NTU at any time.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60634. as follows:

Section 60634. Alternatives.

(a) Alternatives to pathogen control treatment trains specified in section 60632 may be used if the proposed alternative will meet the requirements of pathogen log reduction targets in Table 60630-1. The local jurisdiction must consult with the State Board for any alternatives to pathogen control treatment trains prior to approving and issuing a local jurisdiction permit for the operation of an OTNWS.

(b) Alternatives to pathogen control treatment trains in section 60632 must:

(1) Consist of multiple treatment processes which include at least one filtration process and one disinfection process. Each treatment process may be credited with no more than 6-log reduction for each pathogen;

(2) Consist of treatment processes that are validated for pathogen log reduction as documented by a local jurisdiction approved validation study report meeting the requirements of section 60682; and

(3) Complete a field verification of treatment train performance during the commissioning period pursuant to section 60640.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 5. Monitoring Requirements

Adopt Section 60640. as follows:

Section 60640. Field Verification of Alternative Treatment Train Performance.

(a) Pathogen control treatment trains described in section 60632 are exempt from the requirements of this section.

(b) Alternatives to pathogen control treatment trains, as authorized pursuant to section 60634, must be field verified during the commissioning period to confirm that the full-scale treatment train can achieve the required pathogen log reduction, and that operational monitoring and control systems are functional.

(c) Field verification test runs must be conducted when an OTNWS has achieved normal operating conditions.

(d) Field verification must consist of at least eight different test runs involving different operational parameters. At least one of the eight test runs must demonstrate an operational condition where the expected influent flow rate and/or water quality parameter(s) entering the treatment train is the most challenging for one or more treatment processes.

(e) The procedure and test run conditions for field verification must be described in the commissioning plan submitted for the local jurisdiction’s review and approval as described in section 60684. The local jurisdiction must consult with the State Board prior to the approval of the field verification study.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60642. as follows:

Section 60642. Continuous Process Verification Monitoring.

(a) Each OTNWS must be equipped with a continuous process verification monitoring system that can verify, at all times, the proper operation of each treatment process' ability to achieve its credited log reduction consistent with its validation conditions. Each pathogen control treatment train must meet its designated critical limits provided in subsections (c) through (i).

(b) Alternatives to pathogen control treatment trains, authorized pursuant to section 60634, must perform continuous process verification monitoring utilizing either a pathogenic microorganism of concern or a microbial, chemical, or physical surrogate parameter(s) consistent with each treatment process' validation conditions and the treatment train's approved validation study.

(c) Pathogen control treatment Train A, listed in Table 60632-1, must meet the following critical limits:

(1) The turbidity of MBR system effluent must not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The UV disinfection process following the MBR system must provide a minimum UV dose of 160 millijoules per square centimeter through the UV disinfection process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent;

(3) The chlorine disinfection process following the UV disinfection process must meet the following requirements:

(A) A CT value of not less than 12 mg-min/L at all times, based on maximum flow;

(B) A flow rate through the chlorine contact chamber that does not exceed 1 gpm/100 gallons of reactor volume. Alternative limits on flow rate, baffling

factor, and T10 may be proposed through a tracer study conducted in accordance with a protocol that has been reviewed and approved by the local jurisdiction;

(C) A free chlorine residual of at least 1.2 mg/L to be maintained at all times, measured at or downstream of the point at which T10 is achieved;

(D) An influent turbidity entering the chlorine contact chamber not to exceed 0.5 NTU at any time;

(E) An influent ammonia concentration entering the chlorine contact chamber not to exceed 0.5 mg/L at any time;

(F) An influent pH not to exceed 8.0 at any time; and

(G) An influent temperature of at least 15°C (59°F) at all times.

(d) Pathogen control treatment Train B, listed in Table 60632-1, must meet the following critical limits:

(1) The turbidity of MBR system effluent must not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The UV disinfection process following the MBR system must provide a minimum UV dose of 120 millijoules per square centimeter through the UV disinfection process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent;

(3) The chlorine disinfection process following the UV disinfection process must meet the following requirements:

(A) A CT value of not less than 16 mg-min/L, based on maximum flow;

(B) A flow rate through the chlorine contact chamber that does not exceed 1 gpm/100 gallons of reactor volume. A project proponent may propose an alternative baffling factor and T10 through a tracer study conducted in accordance with a protocol that has been reviewed and approved by the local jurisdiction;

(C) A free chlorine residual of at least 1.6 mg/L to be maintained at all times, measured at or downstream of the point at which T10 is achieved;

(D) An influent turbidity entering the chlorine contact chamber not to exceed 0.5 NTU at any time;

(E) An influent ammonia concentration entering the chlorine contact chamber not to exceed 0.5 mg/L at any time;

(F) An influent pH not to exceed 8.0 at any time; and

(G) An influent temperature of at least 10°C (50°F) at all times.

(e) Pathogen control treatment Train C, listed in Table 60632-1, must meet the following critical limits:

(1) The turbidity of MBR system effluent must not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The UV disinfection process following the MBR system must provide a minimum UV dose of 160 millijoules per square centimeter through the UV disinfection process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent;

(3) A chlorine disinfection process following the UV disinfection process must meet the following requirements:

(A) A CT value of not less than 7 mg-min/L at all times, based on maximum flow;

(B) A flow rate through the chlorine contact chamber must not exceed 1 gpm/100 gallons of reactor volume. A project proponent may propose an alternative limit on flow rate, baffling factor, and T10 through a tracer study conducted in accordance with a protocol that has been reviewed and approved by the local jurisdiction;

(C) A free chlorine residual of at least 0.70 mg/L must be maintained at all times, measured at or downstream of the point at which T10 is achieved;

(D) An influent turbidity entering the chlorine contact chamber must not exceed 0.5 NTU at any time;

(E) An influent ammonia concentration entering the chlorine contact chamber must not exceed 0.5 mg/L at any time;

(F) An influent pH not to exceed 8.0 at any time; and

(G) An influent temperature at least 15°C (59°F) at all times.

(f) Pathogen control treatment Train D, listed in Table 60632-1, must meet the following critical limits:

(1) The turbidity of MBR system effluent does not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The UV disinfection process following the MBR system must provide a minimum UV dose of 240 millijoules per square centimeter through the UV disinfection process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent.

(g) Pathogen control treatment Train E, listed in Table 60632-1, must meet the following critical limits:

(1) The turbidity of membrane filtration system effluent does not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The UV disinfection process following the MBR system must provide a minimum UV dose of 160 millijoules per square centimeter through the UV disinfection

process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent.

(3) A chlorine disinfection process following the UV disinfection process must meet the following requirements:

(A) A CT value of not less than 10.0 mg-min/L at all times, based on maximum flow;

(B) A flow rate through the chlorine contact chamber not to exceed 1 gpm/100 gallons of reactor volume. A project proponent may propose an alternative limit on flow rate, baffling factor, and T10 through a tracer study conducted in accordance with a protocol that has been reviewed and approved by the local jurisdiction;

(C) A free chlorine residual of at least 1.0 mg/L to be maintained at all times, measured at or downstream of the point at which T10 is achieved;

(D) An influent turbidity entering the chlorine contact chamber not to exceed 0.5 NTU at any time;

(E) An influent ammonia concentration entering the chlorine contact chamber not to exceed 0.5 mg/L at any time;

(F) An influent pH not to exceed 8.0 at any time; and

(G) An influent temperature of at least 15°C (59°F) at all times.

(h) Pathogen control treatment Train F, listed in Table 60632-1, must meet the following critical limits:

(1) The UV disinfection process must provide a minimum UV dose of 40 millijoules per square centimeter through the UV disinfection process at all times. Influent to the UV disinfection process must be at or below the maximum flow rate certified for the system and have UV transmittance greater than or equal to 65 percent.

(i) Any treatment train that includes an MBR process treating either onsite wastewater or graywater sources, and has not been operational or receiving onsite wastewater or graywater influent for at least 96 hours, must meet the following critical limits until the treatment train reaches normal operating condition:

(1) The turbidity of MBR system effluent does not exceed any of the following:

(A) 0.2 NTU for more than 5 percent of the time within a 24-hour period; and

(B) 0.5 NTU at any time.

(2) The MBR process effluent must have UV transmittance greater than or equal to 65 percent; and

(3) The MBR process effluent ammonia concentration must not exceed 0.50 mg/L at any time.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Section 116271, Health and Safety Code; Reference: Sections 13520, 13522 and 13558, Water Code

Article 6. Design Requirements

Adopt Section 60670. as follows:

Section 60670. Supplemental Source of Water for OTNWS.

(a) An OTNWS producing onsite treated nonpotable water for indoor uses must have a municipally-supplied potable water source serving as a supplemental source of water. Connection to the potable water supply must be protected by an air gap separation.

(b) If recycled water is used as a supplemental source of water, it must be municipally supplied disinfected tertiary recycled water as defined in section 60301.230 or better. Connection to recycled water must be protected by an air gap separation.

(c) The responsible entity must obtain the municipal potable water supplier's and/or recycled water supplier's approval that potable water and/or recycled water will be used as the OTNWS's supplemental source of water. The approval must be obtained prior to the local jurisdiction permit issuance.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60672. as follows:

Section 60672. Automatic Diversion.

(a) An OTNWS must be able to automatically cease delivery of onsite treated nonpotable water when the water does not comply with section 60642.

(b) No more than 15 minutes of time delay is allowed between when the alarm is triggered by the SCADA system and the delivery of onsite treated nonpotable water is ceased.

(c) An OTNWS must be equipped with all necessary provisions to enable fully automatic diversion, including diversion devices, provisions for odor control, conduits, pumping equipment, any and all necessary sensors, instruments, valves, and other devices. The diversion equipment must be able to function independently of the power supply used for the OTNWS. If diversion is directed as discharge to the community sewer, storm sewer, or off-site storm drainage systems, the responsible entity must confirm the necessary requirements and obtain approvals from the relevant local jurisdiction and/or utility providers prior to discharging.

(d) Prior to restarting delivery of onsite treated nonpotable water following diversion of the water, the responsible entity must investigate the cause of not meeting pathogen log reduction targets and complete corrective actions. The responsible entity must submit a report describing the incident and completed corrective actions to the local jurisdiction prior to restarting the OTNWS operation.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60674. as follows:

Section 60674. Reliability Requirements for Disinfection Unit Processes.

(a) An OTNWS with a UV disinfection process must be equipped with a built-in automatic reliability feature that is triggered when the measured UV dose is below the minimum UV dose. If the measured UV dose goes below the minimum UV dose, the SCADA system must automatically start up the next available UV lamp bank or reactor. If no redundant lamp bank or reactor is available, the SCADA system must initiate automatic diversion pursuant to section 60672.

(b) An OTNWS with a chlorine disinfection process must have the following features for uninterrupted chlorine feed:

(1) Standby chlorine supply;

(2) Chlorine metering pump; and

(3) Automatic residual control of chlorine dosage and automatic measuring and recording of chlorine residual.

(c) An OTNWS using a disinfection unit process other than a chlorine disinfection process or UV disinfection process must describe and propose reliability features to ensure uninterrupted pathogen inactivation or removal in the engineering report pursuant to section 60680.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60676. as follows:

Section 60676. Alarms.

(a) Each OTNWS must be equipped with alarm devices to provide warnings of:

(1) Loss of power;

(2) Treatment train failure to meet section 60642; and

(3) Any other incidents for which warning is required by the local jurisdiction to minimize threats to public health resulting from an OTNWS failure.

(b) All required alarm devices must be capable of operating independently of the power supply for the OTNWS.

(c) The personnel to be warned by an alarm device must be capable of taking prompt corrective actions necessary to prevent delivery of inadequately-treated onsite treated nonpotable water to the use area.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60678. as follows:

Section 60678. Microbial Regrowth Control for Storage and Distribution.

(a) The temperature of water in the onsite treated nonpotable water storage and distribution system must be maintained at less than 25°C (77°F) or greater than 45°C (115°F).

(b) Water storage tank temperatures must be continuously monitored with a monthly manual confirmation using a calibrated field thermometer.

(c) A free chlorine minimum residual of 0.5 mg/L must be maintained at the farthest end-use fixture(s). If chloramines are used to maintain disinfection residual, 0.7 mg/L total chlorine must be maintained at the farthest end-use fixture(s). The responsible entity must measure residual disinfectants weekly using a calibrated field meter.

(d) If the required disinfectant residual pursuant to subsection (c) is not met, the responsible entity must restore disinfectant residual and retest within 48 hours upon discovery in accordance with the corrective action plan required in section 60686.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 7. Plans and Reports

Adopt Section 60680. as follows:

Section 60680. Engineering Report.

(a) No person shall produce, supply, or use nonpotable water from an OTNWS that does not have an engineering report which has been approved by the local jurisdiction.

(b) The engineering report must be prepared by a properly qualified professional engineer, licensed in California and who has a minimum of three (3) years' experience in wastewater treatment.

(c) The engineering report must contain the following information:

(1) An identification of the responsible entity and all other entities that will be involved in the construction, commissioning, and ongoing operation and maintenance of the OTNWS, including a description of any legal arrangements outlining roles and responsibilities associated with each entity and proof of filing of property covenants for district-scale projects pursuant to section 60604(b) ;

(2) A description of the untreated alternate water source(s) proposed for treatment by the OTNWS, method and manner of collection, location of collection and/or storage facilities, and estimated proportion of water sources to be treated by the OTNWS if multiple untreated alternate water sources are collected for treatment;

(3) Description and if available, any documentation, of the collection, storage, and distribution system(s) components, which includes the following information:

(A) Plans and specifications;

(B) Existing and proposed piping systems;

(C) Pipe locations of nonpotable and potable systems;

(D) Type and locations of the outlets and plumbing fixtures;

(E) Type, size, and material of storage tanks;

(F) The backflow prevention assemblies to prevent backflow of onsite treated nonpotable water into the public water systems and municipal recycled water systems;

(4) A description of the OTNWS treatment train, which includes the following information:

(A) A complete schematic of the treatment train, including how it connects to the collection, storage, and distribution system;

(B) A description of how the treatment train will meet the pathogen log reduction target in Table 60630-1, either by compliance with section 60632 or section 60634; and

(C) A description of each treatment process, including design and operational parameters;

(5) A description of how the SCADA system performs all of the following:

(A) Identifies, acquires, and uses monitoring data to inform operators, generate reports, and take autonomous actions;

(B) Identifies, alerts, and responds to a failure of a control point to meet a critical limit and halts or diverts the flow of inadequately treated water; and

(C) Identifies the LRV performance status of each treatment process for which a log reduction has been credited and uses that status to determine the treatment train's ability to meet the pathogen log reduction targets pursuant to section 60630;

(6) A description of supplemental water supply, which includes the following information: source(s), quality, anticipated capacity available, cross-connection control(s), and backflow prevention measure(s);

(7) A description of planned monitoring and reporting, which includes method and frequency of calibration for any continuous monitoring instrument;

(8) A description of how the project proponent will comply with design requirements in Article 6 of this Chapter;

(9) A description of contingency planning designed to prevent inadequately treated water from being delivered to the users that includes the following:

(A) A list of conditions which would require an immediate diversion to take place;

(B) A description of the diversion or disposal facilities and capacity; and

(C) A list of local jurisdiction contacts to notify of any treatment failures that could result in the delivery of inadequately-treated onsite treated nonpotable water to the use area;

(10) A description of use area that includes the following information:

(A) Type of occupancy;

(B) Type of use;

(C) Method for application or use of onsite treated nonpotable water;

(D) Availability of onsite treated nonpotable water and if applicable, scheduled application time and duration of water application;

(E) A description of public access, hours of operation, and maximum occupancy;

(F) Use area containment measures and use area requirements;

(G) A map and description of locations of signage, along with types of signage installed meeting the requirements of section 60692; and

(H) Design or construction drawings showing all piping networks within the use area including onsite treated nonpotable water, sewage, drinking water, and any other piping as applicable.

(11) A description of staffing for the full operation and maintenance of the entirety of the OTNWS facilities;

(12) A description of means for compliance with cross-connection control requirements in Article 9 of this Chapter;

(13) A validation study report prepared in accordance with section 60682, if required;

(14) Commissioning plan prepared in accordance with section 60684; and

(15) Other report elements specified by the local jurisdiction to evaluate the effectiveness of the proposed OTNWS.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60682. as follows:

Section 60682. Validation Study Protocol and Report.

(a) An OTNWS using a pathogen control treatment train in accordance with section 60632 are exempt from the requirement of this section.

(b) Each treatment process used to meet the pathogen log reduction targets in Table 60630-1 must be validated for pathogen log reduction or inactivation. A validation study report must be submitted to the local jurisdiction for review and approval. The validation study report must follow a validation study protocol approved by the local jurisdiction.

(c) Local jurisdictions must consult with the State Board prior to approving the validation study protocol and validation study report.

(d) The validation study protocol and report must be prepared by a California licensed engineer, with at least five (5) years of experience as a licensed engineer in drinking water or wastewater treatment evaluating treatment processes for pathogen control. A UV disinfection process validation study report may be prepared by an engineer licensed in state other than California as long as the other qualifications in this subdivision are met.

(e) The validation study report must demonstrate that the proposed treatment process and the overall treatment train provides reliable and continuously verifiable pathogen removal and must contain the following information:

(1) A validation study protocol prepared in accordance with subsection (f) and approved by the local jurisdiction;

(2) A summary of the LRV demonstrated by each treatment process for each pathogen identified in subsection (f)(2), the operating envelope, and the critical limit(s) for each validated treatment process; and

(3) Evidence of the treatment technology's ability to achieve the pathogen log reduction value reliably and consistently, including information on the required operating conditions and surrogate parameters proposed for continuous process verification monitoring.

(f) A validation study protocol must:

(1) Identify the treatment mechanism(s) of pathogen reduction by the treatment process;

(2) Identify the pathogen(s) being addressed by the treatment, or appropriate surrogate(s) for the pathogen(s), that are used in the validation study. The pathogen(s) and surrogate(s) selected for the validation study shall be one(s) most resistant to the treatment mechanisms;

(3) Ensure that the pathogen(s) or surrogate(s) are present in the test water in concentrations sufficient to demonstrate a pathogen log reduction;

(4) Identify the factors that influence the pathogen reduction efficiency for treatment mechanism(s). Influencing factors include, but not are limited to, feed water characteristics such as temperature and pH; hydraulic loading; deterioration of components, and integrity failure;

(5) Identify the surrogate and/or operational parameters that can be measured continuously and that will correlate with the reduction of the pathogen(s) or surrogate(s) for the pathogen(s).

(6) Identify the validation methodology to demonstrate the capability of the treatment process. The validation methodology shall involve a challenge test to quantify the reduction of the target pathogen or appropriate surrogate while concurrently monitoring the operational parameters to determine an operating envelope;

(7) Describe the method to collect and analyze data to formulate evidence-based conclusions;

(8) Describe the method to determine the critical limit(s) and the operational monitoring and control strategy;

(9) Describe the method to be used to calculate the log reduction value for the treatment process for each pathogen. The validated log reduction value shall not exceed that achieved by 95 percent of the challenge test results when the treatment process is operating in compliance with the critical limit(s); and

(10) Identify the circumstances that would require a re-validation or additional onsite validation, including but not limited to, when conditions are inconsistent with the previous validation test conditions.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60684. as follows:

Section 60684. Commissioning Plan and Report.

(a) Each OTNWS must successfully perform and complete a commissioning period prior to supplying onsite treated nonpotable water for indoor and outdoor uses.

(b) The commissioning plan and report must be prepared by a properly qualified professional engineer, licensed in California, and who has a minimum of three (3) years' experience in wastewater treatment.

(c) Each OTNWS must have a commissioning plan approved by the local jurisdiction prior to commissioning.

(d) The commissioning plan must contain the following information:

(1) Hydraulic load during the test;

(2) Location and schedule for all sampling or measurements;

(3) Methods used to analyze water quality samples or make measurements, if applicable;

(4) Person(s) responsible for conducting the test and if applicable, processing samples;

(5) Indicators of normal operating condition;

(6) Methods used to verify that the required pathogen log reduction values are achieved;

(7) Test plan for triggering critical alarms, reliability features, and automatic diversion features;

(8) Procedure and proposed test run conditions for field verification study pursuant to section 60640 for alternatives to pathogen control treatment trains; and

(9) Any additional information that the local jurisdiction determines is necessary to demonstrate how the OTNWS will operate as designed at the anticipated operating conditions.

(e) The duration of the commissioning period must be sufficient for all treatment processes to reach steady operating conditions, to experience at least one continuous operation between two consecutive backwash cycles (or other actions that renew treatment function yield or efficacy), and to collect sufficient treatment system performance data to determine that the treatment train meets the reliability requirements for compliance with section 60674.

(f) A commissioning report documenting the OTNWS commissioning must be submitted to the local jurisdiction for review and approval within 30 days of completion of the commissioning period. The commissioning report must include the following information:

(1) Identification of any deviation from the local jurisdiction-approved commissioning plan;

(2) Efficacy of treatment;

(3) Functionality of treatment unit operations such as pumping, aeration, level controls, and chemical feed rates;

(4) Any situations resulting in out-of-specification performance of each treatment process not anticipated in the commissioning plan; and

(5) Finding(s) on whether the OTNWS treatment facility commissioning demonstrates that it can reliably comply with the requirements in Articles 4, 5, and 6,

and any additional local jurisdiction requirements necessary to demonstrate that the OTNWS will operate in a manner that is protective of public health.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60686. as follows:

Section 60686. Operations Plan.

(a) Each OTNWS must have an operations plan approved by the local jurisdiction prior to local jurisdiction permit issuance. The operations plan must include the following:

(1) A compilation of equipment operations and maintenance manuals, including preventive maintenance recommendations and frequencies, a list of spare parts, and technical cut sheets;

(2) A user guide for OTNWS personnel on how to operate and navigate the OTNWS facility SCADA system;

(3) As-built construction drawings and specifications of the OTNWS treatment, storage, and distribution facilities;

(4) Best management practices for corrosion control for the onsite treated nonpotable water storage and distribution system designed to minimize the risk of illness resulting from opportunistic pathogens;

(5) Standard operating procedures which include detailed startup and shutdown procedures, operator log sheets and checklists, and troubleshooting procedures;

(6) A summary of regulatory compliance information which includes monitoring and reporting requirements to comply with the local jurisdiction’s permit, methods of compliance, and monitoring locations;

(7) Health and safety protocols, including information about personal protective equipment and emergency contact information;

(8) Contingency planning information which includes procedures for actuation of supplemental water sources, disposal of inadequately-treated onsite treated nonpotable water, actions to be taken and disposal plan in the event of a UV lamp breakage that can result in mercury release, customer notification, and key contact information in the event of emergencies;

(9) Staffing information which includes a list of personnel responsible for operation and maintenance of the OTNWS treatment facility including certifications or licenses, if applicable; staffing schedules; contact information for personnel responsible for onsite operations, offsite or on-call maintenance staffing contact information and frequency of scheduled onsite visits if applicable; a signed statement by the responsible entity certifying that the personnel responsible for operating the treatment facility possess the knowledge and basic understanding of subjects described in section 60690(b);

(10) Quick reference section that includes the following information:

(A) Critical alarms with required responses; and

(B) Location and inventory of monitoring instrumentation with the listed frequency of manufacturer's recommended calibration and maintenance;

(11) Sampling plan, including corrective action plan to address undetectable or very low disinfectant residual, to demonstrate compliance with section 60678; and

(12) Any additional information that the local jurisdiction determines is necessary to ensure the OTNWS operates as designed and is protective of public health.

(b) The operations plan must be representative of the current operations, maintenance, and monitoring of the OTNWS at all times. Operations Plan updates that result in changes to operations beyond those documented in the local-jurisdiction-approved commissioning report, and maintenance and monitoring of the OTNWS that relate to compliance with these regulations must be approved by the local jurisdiction prior to the changes being implemented.

(c) The operations plan must be kept onsite and is available to all personnel responsible for operation of OTNWS at all times.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Section 60688. Monitoring Report.

OTNWS monitoring results must be reported to the local jurisdiction in a format approved by the local jurisdiction at least quarterly. The monitoring report must include the following information:

(a) The OTNWS's treatment system's daily average treated flow in gallons per day;

(b) Volume of onsite treated nonpotable water produced and used daily in gallons;

(c) Daily summaries of continuous process verification monitoring parameters pursuant to Table 60688-1 for a pathogen control treatment train or parameters approved for an alternative treatment train pursuant to section 60642 subsection (b);

(d) Descriptions of any malfunctions, breakdowns, upsets, bypasses, or other system operation anomalies, which includes information on dates, duration, and personnel response to investigate and remediate the issue(s);

(e) Any public or building occupant and/or tenant complaints related to the OTNWS and personnel response or plan to follow up, investigate, and remediate the issue(s);

(f) Results of the sampling performed in accordance with section 60678; and

(g) Any additional monitoring parameters that the local jurisdiction determines is necessary to demonstrate how the OTNWS will operate as designed.

Table 60688-1. Continuous Process Verification Monitoring Parameters for Reporting

Treatment Process	Parameter	Units	Reporting parameter
MBR	*Effluent turbidity*	*NTU*	*Daily maximum, Rolling 24-hour 95th percentile*
UV disinfection	*Influent turbidity*	*NTU*	*Daily maximum, Rolling 24-hour 95th percentile*
UV disinfection	*Ultraviolet dose*	*mJ/cm^2*	*Daily minimum*
UV disinfection	*Ultraviolet transmittance*	*%*	*Daily minimum*
Chlorine disinfection	*Flow rate*	*Gpm*	*Daily minimum, daily maximum*
Chlorine disinfection	*Influent chlorine dose*	*mg/L*	*Daily minimum*
Chlorine disinfection	*Effluent free chlorine residual*	*mg/L*	*Daily minimum*
Chlorine disinfection	*Influent ammonia*	*mg/L*	*Daily maximum*
Chlorine disinfection	*Influent turbidity*	*NTU*	*Daily maximum*
Chlorine disinfection	*Influent pH*	*Standard units*	*Daily maximum*
Chlorine disinfection	*Influent water temperature*	*°C or °F*	*Daily minimum*
Membrane filtration	*Effluent turbidity*	*NTU*	*Daily maximum, Rolling 24-hour 95th percentile*

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Article 8. Other Requirements

Adopt Section 60690. as follows:

Section 60690. Personnel.

(a) Any plumbing modifications to any part of the OTNWS collection, treatment, or distribution facilities must be performed by a licensed contractor or any other licensed, certified, or registered persons in accordance with state and local plumbing codes.

(b) The responsible entity must submit a signed statement in the operations plan for submittal to the local jurisdiction pursuant to section 60686, which certifies that personnel operating the OTNWS treatment facility possess the following:

(1) Knowledge of the requirements of this Chapter and local jurisdiction program requirements;

(2) Knowledge of the operation and maintenance of the OTNWS treatment processes;

(3) Knowledge of operating the process treatment, flow control, pressure control, and storage facilities using a SCADA system;

(4) Knowledge of pathogen control and public health protection;

(5) Knowledge of and ability to carry out personnel tasks and functions to ensure that the OTNWS treatment facility is operating in a manner that is consistent with the approved operations plan;

(6) Knowledge of cross-connection control measures, including how to comply with the requirements in Article 9 of this Chapter; and

(7) Other requirements that the local jurisdiction determines is necessary to ensure the OTNWS operates as designed and in a manner that is protective of public health.

(c) The responsible entity must report the change of duly authorized agent to the local jurisdiction within 30 calendar days of the effective date of the change.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60692. as follows:

Section 60692. Signage.

(a) All indoor and outdoor use areas where onsite treated nonpotable water is accessible to the public or common areas must be posted with permanent and durable signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, and that include the following wording: “CAUTION: NONPOTABLE WATER – DO NOT DRINK.” Each sign must contain letters of a highly visible color on a purple background. Each sign must display an international symbol similar to that shown in 2022 California Plumbing Code (California Code of Regulations, Title 24, Part 5), Chapter 15 figure 1505.9.

(b) A sign must be installed in each publicly accessible or common area restroom of commercial, mixed-use, and multi-family buildings using onsite nonpotable treated water for water closets, urinals, or both. Each sign must contain letters of a highly visible color on a purple background with a character height as specified in the 2022 California Building Code (California Code of Regulations, Title 24, Part 2), Chapter 11A section 1143A and Chapter 11B section 11B-703, respectively. The location of each sign must be such that the sign is visible to users and must be approved by the local jurisdiction. Each sign must contain the following text: “TO CONSERVE WATER, THIS BUILDING USES NONPOTABLE WATER TO FLUSH TOILETS AND URINALS.”

(c) Where tank-type toilets are flushed with onsite treated nonpotable water, a permanent sign (such as made from plastic or stainless steel) must be installed inside the tank to warn that the water within the tank is not a suitable emergency drinking water supply. The sign must include the following language: "CAUTION: NONPOTABLE WATER - DO NOT DRINK."

(d) A sign must be installed in each publicly accessible or common area laundry facility of commercial, mixed-use, and multi-family buildings using onsite nonpotable treated water for clothes washing machines. Each sign must contain letters of a highly visible color on a purple background with a character height as specified in the 2022 California Building Code (California Code of Regulations, Title 24, Part 2), Chapter 11A section 1143A and Chapter 11B section 11B-703, respectively. The location of each sign must be such that the sign is visible to users and must be approved by the local jurisdiction. Each sign must contain the following text: “TO CONSERVE WATER, THIS BUILDING USES NONPOTABLE WATER FOR CLOTHES WASHING.”

(e) Where tank-type toilets are flushed with onsite treated nonpotable water, a permanent sign (such as made from plastic or stainless steel) must be installed inside the tank to warn that the water within the tank is not a suitable emergency drinking water supply. The sign must include the following language: "CAUTION: NONPOTABLE WATER - DO NOT DRINK."

(f) Each equipment room containing OTNWS equipment must have a sign posted in a location that is visible to anyone working on or near OTNWS equipment. Each sign must contain letters at least 1 inch (25.4 mm) in height of a highly visible color on a purple background: “CAUTION: NONPOTABLE WATER, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.”

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60694. as follows:

Section 60694. Notifications.

(a) Prior to supplying onsite treated nonpotable water for indoor uses, building tenants and/or residents must be informed of the use of onsite treated nonpotable water, and any plumbing modifications or repairs in the building unit requires approval

by the responsible entity or its duly authorized agents. The responsible entity must document that the tenants and/or residents are provided with the information.

(b) The responsible entity must notify the local jurisdiction by phone and electronic mail within 24 hours of discovery of the delivery of inadequately-treated onsite treated nonpotable water to a use area.

(c) The responsible entity must provide written notification to building tenants and/or residents no later than 24 hours of discovery of the delivery of inadequately-treated onsite treated nonpotable water for indoor uses.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60696. as follows:

Section 60696. Decommissioning.

(a) The responsible entity must provide notification to the local jurisdiction at least 30 days prior to the start of decommissioning activities. The notification must include the following information:

(1) Procedures related to inactivation, demolition, or removal of mechanical and electrical equipment from the OTNWS project site;

(2) Procedures related to abandonment or removal of internal and external pipeline necessary for onsite treated nonpotable water storage and delivery;

(3) Any other necessary activities to decommission an OTNWS as determined by the local jurisdiction; and

(4) Timeline to complete items in subsections (a)(1), (a)(2), and (a)(3).

(b) The responsible entity must provide notification to the local jurisdiction no later than 30 days after the completion of decommissioning activities.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Section 116271, Health and Safety Code; Reference: Sections 13520, 13522 and 13558, Water Code

Article 9. Cross-connection Controls

Adopt Section 60700. as follows:

Section 60700. Cross-connection Hazard Assessment.

(a) A site-specific cross-connection hazard assessment of the onsite nonpotable water treatment facility, storage facility, and distribution system must be conducted prior to the initial delivery of onsite treated nonpotable water and at least once every four years thereafter to confirm that the onsite potable water system is protected from contamination or pollution resulting from unintended cross-connection with OTNWS.

(b) The site-specific cross-connection hazard assessment must consider and identify the following elements:

(1) Actual and potential cross-connections between the onsite potable water system, nonpotable water system, and if applicable, any recycled water system;

(2) Distribution system conditions that increase the likelihood of a backflow event;

(3) Proper backflow protection(s) or action(s) required to eliminate and prevent any cross-connection(s) identified in subsections (b)(1) and (b)(2);

(4) Connection(s) to supplemental water supply(es); and

(5) Any method to ensure containment at the point of potable water service connection, and if available, recycled water service connection.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60702. as follows:

Section 60702. Visual Inspection.

(a) A visual inspection must be conducted before commencing a cross-connection test pursuant to section 60704 and at least annually thereafter.

(b) Visual inspection must include the following elements:

(1) Meter locations of potable water lines and if available, meter locations of nonpotable water lines, such as recycled water, must be checked to verify that no cross-connection exists;

(2) Pumps and equipment, equipment room signs, and exposed piping in the equipment room must be checked to confirm that no signs have been removed and that nonpotable facilities marking are clear and visible;

(3) Valves must be checked to confirm that the valve lock seals are still in place and intact. Valve control door signs must be checked to verify that no signs have been removed; and

(4) Each supplemental source of water supply to the OTNWS must be checked to confirm it is protected by the appropriate type of backflow prevention assembly or air gap, is intact, and has not been compromised.

(5) Signs in publicly accessible or common areas served by onsite treated nonpotable water as described in section 60692 must be checked to confirm that no signs have been removed and that nonpotable facilities marking are clear and visible.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60704. as follows:

Section 60704. Cross-connection Test.

(a) A cross-connection test is required prior to the initial delivery of onsite treated nonpotable water and at least once every four (4) years thereafter.

(b) A cross-connection test for the onsite nonpotable water treatment facility must be conducted in accordance with a cross-connection test procedure developed specifically for the treatment facility to determine whether a cross-connection has occurred. A site specific cross-connection control test procedure for the onsite nonpotable water treatment facility must be prepared by a certified cross-connection

control specialist and developed in accordance with the cross-connection hazard assessment required by section 60700 subsection (a).

(c) The cross-connection test procedure for the onsite treated nonpotable water distribution system must include the following steps:

(1) The onsite potable water system shall be activated and pressurized. The onsite treated nonpotable water distribution system shall be shut down, depressurized, and drained;

(2) The onsite potable water system must remain pressurized for a minimum period specified by the local jurisdiction while the onsite treated nonpotable water distribution system is depressurized and drained. The minimum period the onsite treated nonpotable water distribution system is to remain depressurized and drained shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the onsite treated nonpotable water distribution systems, but in no case shall that period be less than one (1) hour;

(3) All fixtures for the onsite potable and onsite treated nonpotable water source, shall be tested and inspected for flow. Flow from an onsite treated nonpotable water outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the OTNWS;

(4) The drain on the onsite treated nonpotable water distribution system shall be checked for flow during the test and at the end of the test;.

(5) The onsite potable water system shall then be depressurized and drained;

(6) The onsite treated nonpotable water distribution system must then be activated and pressurized. For the initial cross-connection test, a temporary connection to a potable water supply may be required to test the onsite nonpotable water system plumbing if approved by the potable water supplier. At the conclusion of the initial test, the temporary connection to the potable water supply must be disconnected. Documentation of the disconnected temporary supply must be provided to the local jurisdiction;

(7) The onsite treated nonpotable water distribution system must remain pressurized for a minimum period specified by the local jurisdiction while the onsite potable water system is depressurized and drained. The minimum period the potable water system is to remain depressurized and drained shall be determined on a case-by-case basis, but in no case shall that period be less than one (1) hour;

(8) All fixtures for the onsite potable water system and the onsite treated nonpotable water distribution system must be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an onsite treated nonpotable water outlet will indicate that it is connected to the onsite potable water system;

(9) The drain on the onsite potable water system must be checked for flow during the test and at the end of the test; and

(10) Where there is no flow detected in the onsite potable water system fixtures, which would indicate a cross-connection, the onsite potable water system may be repressurized.

(d) The responsible entity may propose an alternative cross-connection test procedure prepared by a certified cross-connection control specialist demonstrating that the procedure provides the same level protection of public health as subsection (c). The alternative cross-connection test procedure must be submitted in writing to the local jurisdiction and State Board. The alternative cross-connection test procedure must be approved by the local jurisdiction and State Board prior to conducting the cross-connection test.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60706. as follows:

Section 60706. Cross-connection Control General Requirements.

(a) All cross-connection hazard assessments, inspections, and tests must be conducted by a certified cross-connection control specialist.

(b) A written report prepared by a certified cross-connection control specialist documenting the result of a hazard assessment, inspection, and test must be submitted to the local jurisdiction and the potable water supplier within 30 days following the completion of the hazard assessment, inspection, and/or test.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60708. As follows:

Section 60708. Backflow Prevention Assembly.

(a) Any backflow prevention assembly installed to protect the potable water system serving the onsite treated nonpotable water use area must be inspected and tested annually.

(b) Backflow prevention assembly must be tested by a certified backflow prevention assembly tester.

(c) A completed backflow prevention assembly field test or air gap inspection reports must be provided to the local jurisdiction within thirty (30) days of completion of field test or inspection.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.

Adopt Section 60710. as follows:

Section 60710. Discovery of Cross-connection.

(a) If a cross-connection between onsite potable water system and onsite nonpotable water system (treated or untreated) is discovered, the responsible entity must conduct the following procedures immediately:

(1) Notify the local jurisdiction, the potable water supplier, and building tenants and/or residents of the cross-connection no later than 24-hours upon discovery;

(2) Cease delivery of onsite treated nonpotable water to the building and use area premises, and drain the onsite treated nonpotable water riser, if applicable;

(3) Shut down the potable water service to the building and its premises at the meter;

(4) Uncover and disconnect the cross-connection;

(5) Perform another visual inspection, in accordance with section 60702, and cross-connection test, in accordance with section 60704;

(6) Chlorinate the onsite potable water system with 50 parts-per-million (ppm) chlorine for 24 hours; and

(7) Flush the onsite potable water system after 24 hours and perform a standard bacteriological test acceptable to the local jurisdiction. Where test results are acceptable to the local jurisdiction, the onsite potable water system can be permitted to be recharged.

(b) The responsible entity must notify the local jurisdiction of the cross-connection immediately upon discovery and no later than 12 hours after discovery.

(c) Prior to restarting delivery of onsite treated nonpotable water, the responsible entity must investigate the cause of cross-connection and complete corrective actions. The responsible entity must submit a report describing the incident and completed corrective actions to the local jurisdiction prior to restarting OTNWS operations.

Note: Authority cited: Sections 13558 and 13558.1, Water Code; and Sections 116271 and 116350, Health and Safety Code; Reference: Sections 13558 and 13558.1, Water Code.