

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER POLLUTION CONTROL

PREAMBLE

1. **Permission to proceed with this proposed rulemaking was granted under A.R.S. § 41-1039 by the governor on:**

May 15, 2026

2. **Article, Part, or Section Affected (as applicable)** **Rulemaking Action**

R18-9-A801	Amend
R18-9-A802	Amend
R18-9-A803	Amend
R18-9-B804	Amend
R18-9-B805	Amend
R18-9-B806	Amend
R18-9-B809	Amend
R18-9-B811	Amend
R18-9-C812	Amend
R18-9-C813	Amend
R18-9-C814	Amend
R18-9-C815	Amend
R18-9-C816	Amend
R18-9-C817	Amend
R18-9-C818	Amend
R18-9-D819	Amend
R18-9-D821	Amend
R18-9-D822	Amend
R18-9-E824	Amend
R18-9-E825	Amend
R18-9-E826	Amend
R18-9-E828	Amend
R18-9-E829	Amend
R18-9-E830	Amend
R18-9-E831	Amend

R18-9-F832

Amend

R18-9-F833

Amend

3. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: A.R.S. §§ 49-104(A)(1), (7), (8); 49-203(A)(7), (9), (10)

Implementing statute: A.R.S. § 49-211

4. Citations to all related notices published in the *Register* that pertain to the current record of the proposed rule:

Notice of Rulemaking Docket Opening: 32 A.A.R. 1450, June 26, 2026, Issue Number: 26, File number: (R26-98)

5. The agency's contact person who can answer questions about the rulemaking:

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6. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

Introduction:

The Arizona Department of Environmental Quality ("ADEQ") was mandated by the Arizona Legislature, pursuant to Arizona Revised Statutes (A.R.S.) § 49-211, to "adopt all rules necessary to establish and implement a direct potable reuse of treated wastewater program, including rules establishing permitting standards and a permit application process". The statute, adopted from House Bill 2861, as enacted in the Second Regular Session on June 28, 2022, became effective on September 24, 2022. For purposes of this Notice and the proposed rule, the term "direct potable reuse" is synonymous with "Advanced Water Purification" (or "AWP"), as the program is now called.

ADEQ, in consideration of Arizona's water supply needs and the Legislative mandate, interpreted A.R.S. § 49-211 as a call to establish an AWP program that is both protective of human health and the environment, as well as imposing minimum burden upon the stakeholder community in achieving that goal. In March of 2025, those efforts culminated in the promulgation of the AWP program rules into the *Arizona Administrative Code* at Title 18, Chapters 1, 5, 9 and 14 (31 A.A.R. 1069). Since March of 2025, ADEQ has continued to meet with its AWP stakeholders who, in those

meetings, have made recommendations on rule adjustments in an effort to make the program better and more implementable. This proposed rulemaking represents ADEQ's review of those recommendations, the internal processing and studying of the program and its rules and the agency's determination that the program can be improved upon in a limited number of rules while maintaining its original protective standard.

Associated Rulemakings:

This proposed rulemaking, collectively, includes four NPRMs, adding or amending rules in A.A.C. Title 18.

Environmental Quality:

- Chapter 1 (Department of Environmental Quality - Administration),
- Chapter 5 (Department of Environmental Quality - Environmental Reviews and Certification),
- Chapter 9 (Department of Environmental Quality - Water Pollution Control), and
- Chapter 14 (Department of Environmental Quality - Permit and Compliance Fees).

The proposed changes to Chapter 1 are specific to updating the Licensing Time-Frame requirements in Article 5, allowing for reduced review times in rule for Demonstration permits. The proposed changes to Chapter 5 are specific to amending the Operator Certification Committee rule in Article 1 in order to expand its scope to include the AWP operator certification program. The proposed amendments to Chapter 9 focus on updating the AWP program's Operator Certification, Demonstration Permit, Enhanced Source Control, Tier 2 Chemical Control, Minimum Design Requirements and other miscellaneous rules in order to make the program more implementable, while maintaining its protective standard. The proposed changes to Chapter 14 are specific to updating the Certified Operator Fees in Article 3 to accommodate the AWP operator certification program.

Stakeholder Engagement:

ADEQ met with its AWP stakeholders regularly since the original AWP rules became effective in March of 2025 (31 A.A.R. 1069). ADEQ published draft rules on its website in June of 2026 and solicited the general public for comment in an effort to gather specific statements and opinion on the draft rules. ADEQ has already determined which comments from that function are appropriate for integration and values the continued input of the regulated community and the public, at-large.

Explanation of Rulemaking Amendments:

R18-9-A801. Definitions

The Department proposes the following revisions to the definitions in R18-9-A801 to align regulatory terminology, eliminate redundant and obsolete terms, and clarify the procedural and operational scope of the Advanced Water Purification (AWP) program:

- "Advanced treated water": Amends the definition to strike unnecessary phrasing regarding multiple treatment facilities and clarifies that advanced treated water (ATW) is water that has undergone all treatment required

pursuant to Article 8, establishing the regulatory compliance boundary at the terminal treatment process of an Advanced Water Treatment Facility (AWTF).

- "Advanced water purification": Amends the definition to remove "finished water" for regulatory consistency; clarifies that AWP refers to the program authorized under Article 8; establishes the core program purpose of producing water for human consumption without an environmental buffer; and strikes specific end-use prescriptions to provide utilities operational flexibility.
- "Advanced water purification project": Amends the scope to apply to a "project" and "all related entities" rather than "all facilities," conveying that project oversight encompasses the planned introduction of ATW beyond AWP program facility boundaries.
- "Advanced water purification responsible agency partner": Amends the definition to replace "AWP project water" with "advanced treated water," specifies that the source is a "drinking water" source, and replaces "drinking water distribution system" with "public water system" to align with statutory definitions.
- "Advanced water treatment facility": Amends the definition to explicitly include demonstration facilities.
- "AWPRA facility": Amends the definition to remove "finished water," strikes "collection system" and "wastewater treatment plant" to eliminate ambiguity, and restricts the term to drinking water treatment facilities, AWTFs, demonstration facilities, or other partner facilities producing ATW under Article 8.
- "Bench Scale": Adds new definition to clarify the prohibition in the demonstration permit rule, R18-9-C817.
- "Bioassay": Repeals the definition commensurate with proposed revisions to Tier 2 chemical control requirements in R18-9-E826.
- "Blending": Amends the definition to specify the mixture of ATW with a "treated drinking water" source prior to the entry point to the distribution system, while striking outdated references to "raw water augmentation" and "treated water augmentation."
- "Class-representative": Adds a new definition supporting enhanced source control (R18-9-E824) and Tier 2 chemical control (R18-9-E826) provisions, allowing applicants to designate a representative non-domestic discharger for an entire industrial class. The proposed definition supports the operational implementation of Enhanced Source Control (R18-9-E824) and Tier 2 Chemical Control (R18-9-E826). Requiring a utility applicant to individually identify, evaluate, and monitor every single non-domestic discharger within a sewer service area creates an unmanageable regulatory and administrative burden. The addition of "class-representative" authorizes an applicant to group non-domestic and potentially impactful industrial dischargers into functional classes and evaluate a single discharger that accurately reflects the qualitative and quantitative discharge profile of that class. Enhanced source control protocols and chemical monitoring activities applied to the designated class-representative facility are presumed to apply to and protect against all individual dischargers within that

class. This mechanism codifies a practical, implementable compliance pathway for public water systems while maintaining rigorous source control standards necessary to safeguard AWP source water quality.

- "Composite sampling": Adds a new definition clarifying the procedures and operational expectations required to satisfy Department sampling protocols.
- "Constituent of concern," "Demonstration permit," "Full scale," "Modification," "Original drinking water," "Pass-through," and "Treatment interference": Amends definitions to strike the term "finished water" commensurate with its repeal across Article 8.
- "Director": Amends the definition to update the statutory cross-reference to the Arizona Revised Statutes.
- "Distribution": Amends the definition to strike "finished water" and add "public water system" to clarify that distribution networks operate as components of a public water system.
- "Existing validation study" and "Onsite validation study": Adds new definitions to support the process validation framework codified in R18-9-F832.
- "Finished water": Repeals the definition to simplify the regulatory framework by removing an artificial distinction between product water types, establishing a single compliance water quality standard for advanced treated water regardless of intended end-use or augmentation strategy. This change includes striking the term across all substantive rule sections. The prior framework maintained an artificial distinction between advanced treated water and "finished water" based on an applicant's downstream augmentation strategy—separating water intended for post-treatment blending or further processing from water routed directly to a distribution entry point. Because water described by both terms was held to identical water quality and public health standards under the AWP program, maintaining two distinct product water terms created an unnecessary distinction that generated confusion regarding compliance boundaries and the jurisdictional entry point for Safe Drinking Water Act regulations. Repealing "finished water" consolidates all product water originating from the terminal treatment process of an AWTF under the single regulatory term "advanced treated water." This simplification maintains complete operational flexibility for permittees across all Direct Potable Reuse (DPR) scenarios—including direct distribution, pre-distribution blending with treated groundwater or surface water, or raw water headworks reintroduction—without imposing rigid end-use classifications on downstream utility infrastructure.
- "Health advisory": Amends the definition to defer directly to the chemical control procedures set forth in R18-9-E826.
- "Oxidized wastewater": Amends the definition to remove the cross-reference to 18 A.A.C. 9, Article 2, maintaining self-contained secondary treatment standards under R18-9-A801 to prevent potential regulatory conflicts.
- "Raw water augmentation" and "Treated water augmentation": Repeals these definitions to eliminate restrictive end-use categorizations and preserve flexibility for direct potable reuse projects.

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- "Recalcitrant total organic carbon": Repeals the definition as the term is not utilized within Article 8.
- "Resilience": Repeals the standalone definition and incorporates its substantive elements directly into the definition of "reliability."
- "Tier 1 chemicals": Amends the definition to reference the overarching National Primary Drinking Water Regulations.
- Renumbering and Non-Substantive Edits. All other proposed changes to this Section consist of technical renumbering and minor language edits to maintain structural consistency and clarity following the substantive amendments described above.

To better understand the scope of AWP water types and uses, please refer to the following table:

AWP Water Types & Uses	Definition	Impact/Application
Advanced treated water	Water produced by an advanced water treatment facility (AWTF) that has undergone all treatment pursuant to this Article.	Overarching term for water originating from the terminal treatment process of an AWTF. The Safe Drinking Water Act and implementing regulations do not contemplate the use of treated wastewater as a source water (only surface water, groundwater, or groundwater under the influence of surface water). For this reason, under the AWP program, advanced treated water is presumptively considered "surface water" for purposes of the Safe Drinking Water Act.
Source water	Water that is characterized for chemical constituents and pathogens based on which treatment or source control is designed.	Source water is utilized to describe wastewater or a wastewater source. The Safe Drinking Water Act and implementing regulations do not contemplate the use of treated wastewater as a source water (only surface water, groundwater, or groundwater under the influence of surface water). For this reason, under the AWP program, treated wastewater is presumptively considered "surface water" for purposes of the Safe Drinking Water Act.
Product water	Water exiting a specific treatment process or a combination of treatment processes.	This water is not yet considered "advanced treated water" until after the final treatment process at the AWTF.
Raw wastewater	Wastewater that is entering a Water Reclamation Facility via a sewage collection system and which has not undergone any centralized treatment. For the purposes of pathogen log removal, raw	Wastewater prior to any centralized treatment process (i.e., before the water reclamation facility).

	wastewater means wastewater prior to any point in a wastewater treatment process that may be credited for disinfection.	
Treated wastewater	Any water or wastewater source of predominantly municipal origin coming from a Water Reclamation Facility and going to an Advanced Water Treatment Facility that has undergone treated wastewater characterization for either enhanced wastewater treatment or secondary wastewater treatment. For the purposes of the AWP program, treated wastewater originates from a Water Reclamation Facility that has liquid stream treatment processes that, at a minimum, are designed and operated to produce oxidized wastewater that achieves a defined source water quality for the purpose of additional treatment by an Advanced Water Treatment Facility.	Wastewater after centralized wastewater treatment but before treatment at an AWTF. For the purposes of AWP, treated wastewater is the source water.

R18-9-A802. Program Review; Incorporation by Reference; Quality Assurance/Quality Control Methodologies

The summarized proposed amendments to this Section are: 1) Reorganization; 2) Addition of Available Testing Methods Subsection and References; 3) Addition of Tier 2 Incorporation by Reference Material; 4) Addition of Pipeline Conveyance Incorporation by Reference Material; and 5) Renumbering and Non-Substantive Edits.

- 1) Reorganization. The Department proposes to restructure R18-9-A802 into four logical subsections: Subsection (A) Program Review, subsection (B) Available Testing Methods, subsection (C) Incorporations by Reference, and subsection (D) Quality Assurance/Quality Control Methodologies. Former subsection (B) previously commingled specific incorporated test methods with general regulatory references, while former subsection (C) outlined quality assurance procedures. Under this proposed amendment, ADEQ creates a dedicated "Available Testing Methods" subsection in subsection (B) (further explained in section 2 below). This provision mandates that any advanced water purification facility, owner, operator, or responsible agency conducting compliance monitoring, initial source water characterization, or other monitoring under Article 8 must utilize an "available testing method". Subsection (B)(1) explicitly defines "available testing method" to include drinking water and wastewater analytical test procedures authorized or published by enumerated sources. Subsection (C) consolidates all incorporated materials into a clean, alphabetized structure organized by primary issuing authority. Finally, subsection (D) preserves and updates the core Quality Assurance/Quality Control methodology requirements by referencing Standard Methods Parts 1000, 7020, 8020, and 9020 as incorporated under subsection (C)(1).
- 2) Addition of Available Testing Methods Subsection and References. The Department proposes to establish a new subsection which establishes the requirement for, definition of and scope of, available testing methods. This change is made pursuant to updates to the Tier 2 chemical control rule, R18-9-E826. To ensure the Tier 2

framework remains practical, enforceable, and technically feasible, the Department proposed a critical preliminary screening step: a chemical is only subject to the Tier 2 analysis if an "available testing method" exists. Designating a chemical as a Tier 2 parameter without a standardized, reliable analytical method would impose an unachievable compliance mandate on permittees and environmental laboratories. To encompass state-of-the-art analytical capabilities while maintaining static legal boundaries as required for rulemakings, ADEQ defined "available testing method" across four distinct compendia covering both wastewater and drinking water analytical methods, incorporating methods authorized by:

- The Arizona Department of Health Services (ADHS) pursuant to 9 A.A.C. 14, Article 6 – Table 6.2.A, Table 6.2.B, and Table 6.2.E,
- The U.S. Environmental Protection Agency (EPA) codified in 40 CFR Part 136 (wastewater) and 40 CFR Part 141 (drinking water),
- ASTM International – ASTM D4327-17(2025); ASTM D5673-16(2024)e1; ASTM D7979-20; ASTM D8148-26; and ASTM D8406-22, and
- Standard Methods for the Examination of Water and Wastewater – Part 3000; Part 4000; Part 5000; and Part 6000.

This subsection ensures that all compliance monitoring relies on analytical procedures that are practically achievable, subject to mandatory proficiency testing programs, and governed by standardized sample preservation and storage protocols.

Compliance testing performed for ADEQ water quality programs—including AWP initial source water characterization and ongoing Tier 2 monitoring—must be performed by a laboratory licensed by the Arizona Department of Health Services (ADHS) for that specific parameter and method. Because ADHS Tables 6.2.A, 6.2.B, and 6.2.E. were last updated in 2016, a method published in Standard Methods 24th Edition (2023), 40 CFR Part 136/141 (2025), or an updated ASTM standard may qualify as an ADEQ "available testing method" while not appearing as a pre-printed entry in ADHS's 2016 tables. Pursuant to A.R.S. § 36-495.01(B), ADHS rules are required to be consistent with ADEQ Title 49 rules and parameters. The ADHS regulatory framework explicitly contains an administrative mechanism to license laboratories for methods required by ADEQ that are not listed in Tables 6.2.A through 6.2.D. When an AWP applicant identifies an inventoried chemical that has an "available testing method" under 40 CFR, ASTM, or Standard Methods 24th Edition that does not appear it, or is more up-to-date than, the methods in ADHS Tables 6.2.A/B, the applicant and its contracted laboratory must utilize approved ADHS procedures to obtain ADHS licensure:

- Application for Director Approval (A.A.C. R9-14-610(C)(1)),
- Method Approval & Fee Assessment (A.A.C. R9-14-610(E) & Table 6.2.E),

- Quality Assurance & Parameter Addition (A.A.C. R9-14-615 & R9-14-620),
- Out-of-State Laboratory Option (A.R.S. § 36-495.14 & A.A.C. R9-14-619).

AWP permit applicants must account for ADHS licensing time-frames. Under ADHS Table 6.1, a "Request for Approval of an Alternate Method or Method Alteration - Required or Authorized by EPA/ADEQ" carries an overall licensing time-frame of 105 days (15 days for administrative completeness review; 90 days for substantive review). Applicants are strongly encouraged to complete their R18-9-E286 chemical inventory early in the pre-application phase to ensure their contracted laboratories secure necessary ADHS method approvals prior to initiating formal sampling under initial source water characterization or ongoing monitoring.

- 3) Addition of Tier 2 Incorporation by Reference Material. The Department proposes to add two new materials incorporated by reference in the amended Tier 2 chemical control rule (R18-9-E826): "Oral Toxicity Value Tables: Oral Reference Doses and Oral Cancer Slope Factors Supporting Derivation of Proposed Health Advisories"; and "Other State's Health Advisory List: Drinking Water Health-Based Values for Constituents Not Listed in the 2018 Edition of the EPA Drinking Water Standards and Health Advisories Tables". In conjunction with updates to R18-9-E826 (Tier 2 Chemical Control), ADEQ is adding these publications to provide the necessary toxicological benchmarks—such as Oral Reference Doses (RfDs) and Oral Cancer Slope Factors—for transparent, health-protective, site-specific Tier 2 health advisories and toxicological data for chemical constituents.
- 4) In conjunction with updates to R18-9-F832 (Minimum Design Requirements), ADEQ is adding two engineering standards to Subsection (C)(3): ASTM C1244-02e1 (Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill) and ASTM F1417-21 (Standard Practice for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air). Incorporating these industry standards provides enforceable testing protocols to verify the physical containment integrity, exfiltration resistance, and structural quality of raw wastewater conveyances and advanced water purification infrastructure.
- 5) Renumbering and Non-Substantive Edits. All other proposed changes to this Section consist of technical renumbering to maintain structural consistency and clarity following the substantive amendments described above. Additionally, the citation formats for all incorporated by reference material in subsection (B) was revised to reflect consistent MLA style formatting.

R18-9-A803. Applicability and Prohibitions

The summarized proposed amendments to this Section are: 1) Clear Establishment of Broad Applicability; 2) Update Safe Drinking Water Act Applicability; 3) Add and Consolidate Clear Prohibitions; and 4) Establish Clear Demonstration Permit Provisions.

- 1) Clear Establishment of Broad Applicability. Proposed subsection (A) adds a broad applicability statement explicitly defining how Article 8 applies to any person who treats, processes, and provides advanced treated

water for human consumption, aligning this Article's applicability framework with standard language across other ADEQ water quality regulatory programs.

- 2) **Update Safe Drinking Water Act Applicability.** Proposed subsection (B) contains the existing language of R18-9-A803 with technical updates and structural revisions. Specifically, the subsection simplifies the AWP/Safe Drinking Water Act nexus by removing specific augmentation scenarios and replaces them with general language which provides that an AWTF may be a source to a public water system or may be considered part of a public water system depending on the advanced treated water introduction scenarios as planned under the specific AWP project. This change acknowledges the interplay with the federal program but enables it to apply as necessary on a case-by-base basis. The proposed edits to subsection (B)(3) clarify that the specified permitting and design provisions supersede Chapter 5, Article 5 requirements for all advanced water treatment facilities, rather than only those categorized as public water systems. Furthermore, the surface water presumption language in existing subsection (A) is moved to proposed subsection (B)(2) and expanded such that both treated wastewater and advanced treated water are presumptively considered surface water and treated surface water, respectively, for purposes of compliance with the Safe Drinking Water Act. This change recognizes that neither of these sources are explicitly recognized by the federal program, currently, but if utilized by a public water system to meet drinking water demand, would apply as surface water sources accordingly. These proposed changes are intended to facilitate ease of programmatic interconnection and compliance.
- 3) **Add and Consolidate Clear Prohibitions.** Proposed subsection (C) adds broad, explicit prohibition language establishing that treating, processing, and providing advanced treated water for human consumption is prohibited unless authorized under an Advanced Water Purification (AWP) full-scale or demonstration permit issued pursuant to this Article. Proposed subsection (D) relocates existing prohibition language from R18-9-B806(A) into this Section, with minor edits, consolidating all prohibition provisions within a single section for enhanced clarity and administrative efficiency. This subsection prohibits the delivery of advanced treated water or finished water for human consumption under a full-scale AWP permit without explicit approval granted either at permit issuance or upon satisfying post-issuance compliance schedule requirements under R18-9-C816(E).
- 4) **Establish Clear Demonstration Permit Provisions.** Proposed subsection (E) establishes a new subsection that mirrors the purpose and intent of subsection (D), applying specifically to demonstration permits. This addition clarifies how delivery prohibitions operate under an AWP demonstration permit—prohibiting delivery unless explicitly approved at permit issuance or upon satisfaction of compliance schedule requirements under R18-9-C817(C)(5)—thereby ensuring clear, consistent standards for both full-scale and demonstration facilities.

R18-9-B804. Advanced Water Purification Operator Certification

The proposed amendments to this Section refine operator certification pathways, update staffing oversight standards,

and align committee structures for the AWP program. The summarized changes are: 1) Introduction of a New Type of Certification; 2) Changes to Definitions and Titles; 3) Changes to the Certification Committee; 4) Changes to Operator Minimum Requirements and Alternative Operator Oversight Requests; and 5) Renumbering and Non-Substantive Edits.

- 1) Introduction of a New Type of Certification. The Department proposes establishing definitions and requirements for an AWP "provisional operator" certification. Available to applicants who hold a current ADEQ Grade 3 or Grade 4 drinking water or wastewater treatment certificate and achieve a passing score of at least 70% on the AWP validated examination, this voluntary certification enables individuals to operate AWP demonstration facilities, pilot facilities, and full-scale verification facilities, as well as train as subordinates under active AWP operators at an Advanced Water Treatment Facility (AWTF). Although provisional operators do not satisfy regulatory "AWP operator" headcount requirements for active facilities, this designation allows prospective operators to gain the required one year of advanced water treatment qualifying experience necessary for full AWP shift or chief operator certification. Individuals who already possess the requisite qualifying experience at the time of examination passage are immediately eligible for full certification, ensuring this provisional pathway offers operational flexibility without imposing an unnecessary prerequisite. The proposed new certification is summarized in the following table:

Certification	Requirements	Scope/Definition	Impact
AWP Operator	- Eligible to sit for AWP Validated Examination (currently ADEQ-certified as a Grade 3/4 wastewater/drinking water operator with 1-2 years of experience at a corresponding Grade 3/4 wastewater/drinking water facility) - Passed the AWP Validated Examination - Obtained at least one year of advanced water treatment qualifying experience - Submits AWP operator certification fee	- Shift Operator: "...means an AWP operator who is in direct charge of the operation of a treatment facility for a specified period of the day and must be present at the site during the duration of the shift" - Chief Operator: "...means an AWP operator who has overall responsibility for the day-to-day, hands-on operation of an AWTF"	Authorized to: - Operate all AWP facilities including an active full-scale AWTF - Serve on the AWP certification committee
Provisional Operator	Eligible to sit for AWP Validated Examination (currently ADEQ-certified as a Grade 3/4 wastewater/drinking water operator with 1-2 years of experience at a corresponding Grade 3/4 wastewater/drinking water facility)	Provisional Operator: "...means a certified, prospective AWP operator serving as an operator-in-training who satisfies all experience and educational requirements except for the requisite advanced	Authorized to: - Operate AWP demonstration facilities - Operate AWP pilot facilities - Operate AWP full-scale verification

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	facility) - Passed the AWP Validated Examination - Submits provisional operator certification fee	water treatment qualifying experience. Provisional operators are not considered AWP operators and therefore do not hold the status of shift operator or chief operator"	facilities - Train at an active full-scale AWTF as a subordinate to an AWP operator - Serve on the AWP certification committee during the two-year transition period
No Certification	None	None	Authorized to operate: - AWP demonstration facilities (but demonstration facilities must have at least one provisional operator) - AWP pilot facilities - AWP full-scale verification facilities

- 2) Changes to Definitions and Titles. The Department proposes replacing the term "direct responsible charge" with "chief operator" while maintaining the existing operational definition in R18-9-B804(A)(6). This update clarifies the distinction between AWP-specific operator requirements and general drinking water or wastewater operator titles in 18 A.A.C. 5, Article 1. This change is strictly a title clarification and does not restrict internal utility management, organizational hierarchy, or official job titles, provided the employee designated to fulfill the role meets the regulatory qualifications of a chief operator.
- 3) Changes to the Certification Committee. The Department proposes updating committee provisions to reflect the consolidation of the AWP certification committee into the Water and Wastewater Operator Certification Committee under 18 A.A.C. 5, Article 1. Proposed subsections (C)(1) and (C)(2) formally designate the consolidated committee under R18-5-103 as the governing body for AWP certification and establish a two-year transition period for the Department to fill the dedicated AWP operator seat.
- 4) Changes to Operator Minimum Requirements and Alternative Operator Oversight Requests. The Department proposes striking the restrictive definition of "shift" (previously defined as an eight-hour period), updating physical oversight requirements to require the chief operator to be onsite at all times during operation unless an alternative oversight plan is approved, and revising the approval standard for alternative oversight requests from an "equivalent degree" to a "reasonable degree" of operational oversight. Removing the rigid eight-hour shift definition accommodates diverse utility scheduling practices, such as 10-hour or 12-hour shifts. Requiring chief operator oversight during active operations establishes a protective baseline, reflecting the Department's goal of

ensuring AWP facilities are highly-protective and maintain consistent oversight from the most qualified operators in the state. Updating the alternative oversight request standard to "reasonable degree" encourages the adoption of emerging automation technologies, remote monitoring, and modern staffing configurations that uphold high public health and environmental protection standards. The resulting requirement for alternative operator oversight requests balances state and water providers' priorities to uphold protective operator oversight standards against the fact that emerging technologies and divergent operational procedures may render some degree of physical onsite presence unnecessary.

- 5) Renumbering and Non-Substantive Updates. All other proposed changes to this Section consist of technical renumbering and minor language edits to maintain structural consistency and clarity following the substantive amendments described above.

R18-9-B805. Advanced Water Purification Responsible Agency Formation; Joint Plan

The proposed amendments to this Section are non-substantive capitalization changes to applied definitions.

R18-9-B806. General Requirements

The proposed amendments to this Section are 1) the addition of a broad, general requirement for permittees to, at all times, "properly operate the AWP project consistent with the Requirements of this Article"; and 2) minor edits consistent with the consolidation of existing requirements into R18-9-A803, described above.

R18-9-B809. Construction and Compliance with Plans

At proposed R18-9-B809(A)(1) and (B)(1), this rulemaking proposes to remove the term "finished water" in accordance with the explanation for removing the term in the Heading No. 6 entry for R18-9-801 – "advanced water purification".

R18-9-C812. Pre-Application Conference; Project Advisory Committee

The proposed amendments to this Section are non-substantive edits and clarifications.

R18-9-C813. Applicant Pathways Depending on National Pretreatment Program Applicability

The proposed amendments to this Section are non-substantive typo corrections.

R18-9-C814. Initial Source Water Characterization

The proposed amendments to this Section include: 1) Clarify Monitoring Location and Scope; and 2) Incorporate Actual Daily Concentration Monitoring Provisions.

- 1) Clarify Monitoring Location and Scope. Proposed subsection (C)(1) clarifies the required physical location for initial source water monitoring, establishing that monitoring must be located before any AWP-credited pathogen treatment process, if applicable, or otherwise at the point of diversion to the advanced water treatment facility (AWTF) or another Departmentally-approved location. This update ensures clear sampling parameters and consistent regulatory oversight across varying facility configurations. The language is updated for clarity and

brevity, changing “a location before any treatment process that will be used for a treatment credit in the AWP project” to “located before any AWP-credited pathogen treatment process, if applicable”. This change reflects that certain treatment processes within the water reclamation facility may be eligible for pathogen crediting, but not always. Furthermore, greater flexibility is proposed for the language through the inclusion of “or at another Departmentally-approved location”, recognizing that the the two provided monitoring locations in the rule (before any AWP-credited pathogen treatment process; or at the point of diversion to the AWTF) represent the standard locations, but do not account for every possibility. Therefore, the proposed flexibility adheres to the intent of this rule, while making it more implementable by acknowledging case-by-case needs.

- 2) Incorporate Actual Daily Concentration Monitoring Provisions. Proposed subsection (C)(2)(c)(ii) incorporates the optional "actual daily concentration monitoring" process introduced in R18-9-E826. This provision adds a new, optional upfront monitoring process that allows applicants to identify Tier 2 chemicals directly in lieu of calculating a "projected daily concentration" for a constituent, providing procedural flexibility while maintaining comprehensive source water safety.

R18-9-C815. Pilot Study

The proposed amendments to this Section include: 1) List Connection; 2) Clarification and Detail Addition to the Pilot Study Plan Monitoring Language; 3) Addition of the Proposed Tier 2 Alert and Action Levels to Pilot Study Plan; 4) Clarification of Pilot Treatment Train Optimization Criteria.

- 1) List Connection. The Department proposed to add the word “and” after the list items at subsection (B)(3)(g)(i) and (ii) in order to properly connect the items using rulemaking customs.
- 2) Clarification and Detail Addition to the Pilot Study Plan Monitoring Language. At proposed R18-9-C815(B)(3)(g)(iv), this rulemaking proposes to clarify what was the “advanced treated water sampling plan”. First the Department proposes to change the name of this requirement to a more demonstrative name “pilot treatment train influent and effluent sampling plan”. Thereafter, the Department proposes to list what the plan includes, such as Tier 1 chemical removal pursuant to R18-9-E825, Tier 2 chemical removal to the proposed action levels pursuant to R18-9-E826(C)(7), and the pathogen log reduction values established in R18-9-E828.
- 3) Addition of the Proposed Tier 2 Alert and Action Levels to the Pilot Study Plan. At proposed R18-9-C815(B)(3)(k), this rulemaking proposes to add to the Pilot Study Plan requirements the proposed Tier 2 action and alert levels pursuant to R18-9-E826(C)(9). Given that the Pilot Study Plan is already required to state the objectives, the pilot train’s performance, as well as a sampling plan that would also include Tier 2 chemical removal to the proposed action levels pursuant to R18-9-E826(C)(7), the proposed addition of the alert and action levels is logical.
- 4) Clarification of Pilot Treatment Train Optimization Criteria. At proposed R18-9-C815(B)(5), this rulemaking

proposes to restructure and revise the requirement of optimizing the pilot treatment train by creating a list of items to be optimized with, including the Tier 1 chemicals, the Tier 2 chemicals, the Projected Tier 2 Chemical Treatment List, the Pass-Through or Interference Chemical List, and Pathogen log reduction values. The previous rule limits this optimization to the Projected Chemical Treatment List and Pathogen log reduction values, while leaving the requirement to optimize to the other items implicit in the earlier Pilot Study Plan requirements. The Department now proposed to make this list explicit.

R18-9-C816. Permit Application

The proposed amendments to this Section include: 1) Clarification of Construction Plan Application Requirement; 2) Clarification of Full-Scale Verification Application Requirement; 3) Clarification of Tier 2 Rule Application Requirements; 4) Non-Substantive Typo Corrections; 5) “Finished Water Term Removal”.

- 1) Clarification of Construction Plan Application Requirement. At proposed R18-9-C816(A)(2)(a), this rulemaking proposes to revise the technical application requirement of construction plans to address the construction status of the facility at the time of application submittal.
- 2) Clarification of Full-Scale Verification Application Requirement. At proposed R18-9-C816(A)(2)(e), this rulemaking proposes to restructure the technical application requirement at proposed subsection (A)(2)(e) in order to address the option for a facility to conduct piloting and full-scale verification simultaneously, pursuant to R18-9-F835(A)(1). In this case, the applicant would submit both the Hybrid Pilot and Full-Scale Verification plan and report as components of the application. Also, ADEQ determined that the full-scale verification report technical application requirement at the previous subsection (A)(2)(h) is better placed at proposed subsection (A)(2)(e).
- 3) Clarification of Tier 2 Rule Application Requirements. At proposed R18-9-C816(A)(2)(o), this rulemaking proposes to add to the list of required technical application components the applicant's Chemical Inventory List and the Pass-Through or Interference List generated in proposed R18-9-E826(B)(1) and (2), respectively. ADEQ has determined these items to be important in an AWP application review.
- 4) Non-Substantive Corrections. At proposed R18-9-C816(A)(2)(b) and (c), this rulemaking proposes to adjust the language to accommodate temporal variability in the facility's construction at the time of application submission, as well as, to remove the word “vendor” in order to open up the sources that validation information can come in from. At proposed R18-9-C816(E)(2)(a), this rulemaking proposes to make a non-substantive typo correction.
- 5) Finished Water Term Removal. At proposed R18-9-C816(E)(1), (2) and (F), this rulemaking proposes to remove the term “finished water” in accordance with the explanation for removing the term in the Heading No. 6 entry for R18-9-801 – “advanced water purification”. Additionally, R18-9-C816(F) was revised to more closely align with proposed R18-9-A803(C).

R18-9-C817. Demonstration Permit

The proposed amendments to this Section increase flexibility for demonstration facilities and establish dual tracks for permitting which automatically afford certain benefits. The summarized changes are: 1) Introduction of Dual-Track Demonstration Permit Types; 2) Increased Administrative Flexibility; 3) Non-Substantive Reorganization and Renumbering for Clarity.

- 1) Introduction of Dual-Track Demonstration Permit Types. The Department proposes to establish a General Demonstration Permit and a Limited Consumption Demonstration Permit, designed to provide Advanced Water Purification Responsible Agencies (AWPRAs) with flexible regulatory pathways for showcasing advanced water treatment technologies while upholding public health protections. This dual-track structure balances broad public outreach goals with tailored regulatory relief based on operational scale and receptor exposure controls. The General Demonstration Permit (R18-9-C817(C)(3)) is designed for AWPRAs conducting broader public outreach, educational demonstrations, and public water tasting events, that don't want a limit imposed upon consumption or receptors. Recognizing the limited operational scale and reduced public risk of demonstration facilities compared to full-scale AWP facilities, the rule carves out explicit application exclusions. Applicants under this pathway are exempt from submitting a Full-Scale Verification Plan and Report (R18-9-F835), a Public Communications Plan (R18-9-B811), and a Vulnerability Assessment (R18-9-F837), alongside additional components at the Director's discretion. To ensure absolute water safety during public tasting, the applicant must satisfy core technical inclusions, including demonstrating pathogen control compliance pursuant to R18-9-E828, establishing Critical Control Points (CCPs), and setting proposed pathogen and Tier 1 chemical action levels for ongoing facility monitoring.

The second track, set forth in R18-9-C817(C)(4), creates the Limited Consumption Demonstration Permit, providing a streamlined option for short-term or smaller-scale testing scenarios by imposing strict, enforceable receptor restrictions. Under this track, water produced cannot be served to any individual weighing less than 10 kilograms, served in quantities exceeding 1 liter per day per person, or served to any person for more than 10 consecutive days. These restrictions are based upon the U.S. Environmental Protection Agency's (EPA) Ten-Day Health Advisory estimate of acceptable drinking water levels for a chemical substance based on health effects information. Specifically, this standard establishes the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to ten days of exposure and is intended to protect a 10-kg child consuming 1 liter of water per day. Because human consumption is capped under this track, the rule grants expanded regulatory exclusions beyond those offered under the General track. Specifically, Limited Consumption applicants are relieved from implementing a full Enhanced Source Control Program under R18-9-C824, retaining only the requirement to identify Potentially Impactful Non-Domestic Dischargers for Tier 2

Chemical Inventory purposes. Furthermore, the rule proves the Director discretion to abbreviate the Initial Source Water Characterization (R18-9-C814) timeframe from standard durations down to a minimum of 3 months.

Both pathways remain anchored by overarching statutory and administrative guardrails to protect public drinking water infrastructure. Physical connection of any demonstration facility to a public drinking water distribution system is strictly prohibited under all circumstances. Additionally, bench-scale demonstration units are barred unless adequate pathogen and chemical critical control measures are specifically approved by the Department. All design plans, specifications, and reports across both tracks must be signed and sealed by an Arizona-registered Professional Engineer with documented relevant expertise, and facilities must maintain a certified AWP provisional operator on-site during operations.

- 2) **Increased Administrative Flexibility.** The proposed rule provides for increased administrative flexibility for AWPRA applicants. In addition to the dual-track permitting options, subsections (C)(3)(a)(iv) and (C)(4)(b)(v) serve as regulatory "off-ramps" within the General and Limited Consumption Demonstration Permit tracks, respectively. Beyond the standard mandatory exclusions—such as exempting applicants from Full-Scale Verification Plans, Public Communications Plans, and Vulnerability Assessments—these provisions grant the Director broad discretion to exclude any other application requirement under R18-9-C816 (or components thereof). This authority allows ADEQ staff to eliminate submittal requirements when an applicant's specific operational design or exposure profile makes them unnecessary. However, this subtractive discretion is bounded: it cannot be used to bypass baseline safety inclusions, such as pathogen control compliance, Tier 1 chemical action levels, or Critical Control Point (CCP) protocols. Complementing these off-ramps, subsection (C)(5) provides an additive counterpart to the Director's discretion. Under this subsection, the Department may specify additional application requirements or substitutions "only as reasonable and necessary to meet the specific needs of a project and support the objectives of the AWP program". This ensures that when an applicant proposes an unconventional treatment train, simplified piloting, or unique source water blend, the Department maintains the agility to request targeted engineering, operational, or monitoring data as necessary.
- 3) **Non-Substantive Reorganization and Renumbering for Clarity.** All other proposed changes to this Section consist of technical renumbering and minor language edits to maintain structural consistency and clarity following the substantive amendments described above.

R18-9-C818. Compliance Schedule

At proposed R18-9-C818, this rulemaking proposes to eliminate subsection B because the prohibition on distribution of advanced treated water until the Department approves all compliance schedule items is already stated in R18-9-C816(F). ADEQ believes the prohibition is better located in R18-9-C816(F) and duplicating the prohibition is unnecessary and superfluous.

R18-9-D819. Public Notice

At proposed R18-9-D819(A)(1), this rulemaking proposes to update the public notice requirements to better fit ADEQ's current practices. Specifically, monthly written notification is proposed to be removed in favor of the electronic notification systems ADEQ operates currently. Also, at proposed R18-9-D819(A)(2)(c), the public notice entity language is proposed to be expanded to persons who have requested to be notified by electronic mail subscription in order to align with ADEQ email subscription lists.

R18-9-D821. Permit Amendments

The proposed amendments to this Section include: 1) Non-Substantive Capitalization and List Connection; 2) Tier 2 Chemical Addition Modification; 3) Removal of "Modification" Language

- 1) Non-Substantive Capitalization and List Connection. At proposed R18-9-D821(B)(1)(g) and (h), this rulemaking proposes to capitalize a defined term and add a word for list connection purposes, both of which are non-substantive in nature.
- 2) Tier 2 Chemical Addition Modification. At proposed R18-9-D821(B)(1)(i), this rulemaking proposes to add an enumerated occurrence to the list of Significant AWP Amendments. This proposed addition is the designation of additional Tier 2 chemicals requiring a modification pursuant to proposed R18-9-E826(A)(3). Also, at proposed R18-9-D821(C)(7), this rulemaking proposes to add an enumerated occurrence to the list of Minor AWP Amendments which is the designation of additional Tier 2 chemicals not requiring a modification pursuant to proposed R18-9-E826(A)(3).
- 3) Removal of "Modification" Language. At proposed R18-9-D821(B)(2), this rulemaking proposes to remove usage of the word "modification" in order to let the significant amendments stand alone and not be limited to the "modification definition".

R18-9-D822. Permit Term; Permit Renewal

The proposed amendments to this Section include: 1) Non-Substantive Edits; 2) Clarification Addition; 3) Typo Correction and Non-Substantive Connection; 4) Tier 2 Addition to Renewal Application List; 5) Renewal Language for Demonstration Permits; 6) Finished Water Term Removal.

- 1) Non-Substantive Edits. At proposed R18-9-D822(A), this rulemaking proposes to edit existing language in a non-substantive manner in order to achieve better clarity.
- 2) Clarification Addition. At proposed R18-9-D822(C), this rulemaking proposes to add a prefatory phrase to more clearly state that the following list is required for a renewal permit application.
- 3) Typo Correction and Non-Substantive Connection. At proposed R18-9-D822(C)(3), (10) and (11), this rulemaking proposes to add "of", remove "and" and add "and" to address the identified issues of a missing word and proper rule list connection.

- 4) Tier 2 Addition to Renewal Application List. At proposed R18-9-D822(C)(11), this rulemaking proposes to add an enumerated renewal application component requirement of a renewed Tier 2 analysis, including an updated Chemical Inventory List, pursuant to R18-9-E826. The requirement to conduct a renewed Tier 2 analysis every five years as a component of a permit renewal application pursuant to R18-9-D822 exists in the previous language. ADEQ believes adding the requirement to the list at proposed R18-9-D822(C) is preferred for clarity.
- 5) Renewal Language for Demonstration Permits. At proposed R18-9-D822(D), this rulemaking proposes to address renewal requirements of Demonstration permits.
- 6) “Finished Water Term Removal”. At proposed R18-9-D822(C)(4)(a), this rulemaking proposes to remove the term “finished water” in accordance with the explanation for removing the term in the Heading No. 6 entry for R18-9-801 – “advanced water purification”.

R18-9-E824. Enhanced Source Control

The proposed amendments to this Section include: 1) Non-Substantive Reorganization of Subsections; 2) Clarified Legal Authority Requirements; 3) Updates for Tribal Considerations; 4) Addition of Class-Listing Process for Non-Domestic Discharger Identification; and 5) Amendments to Early Warning Program Requirements.

- 1) Non-Substantive Reorganization of Subsections. The Department proposes general reorganization of this section to establish a more cohesive flow and encourage comprehension. The existing section establishes all of the enhanced source control requirements within subsection (B), creating a dense set of requirements that are not sufficiently intuitive. Additionally, other areas of this Article refer to an “Enhanced Source Control Plan”, which was not a term utilized in R18-9-E824. Therefore, this section was reorganized as follows:
 - Subsection (A) establishes the general requirement and standard for an AWP project to maintain an enhanced control program at all times and establishes the purpose of enhanced source control which is to control constituents of concern “that are not able to be controlled through treatment at an AWTF”;
 - Subsection (B) applies the general enhanced source control program requirement directly to an AWPRA applicant;
 - Subsection (C) isolates the pre-requisite legal authority for an enhanced source control program, clarifying the standard for authority, providing examples of the types of acceptable legal mechanisms, and delineating minimum requirements that the legal authority must enable;
 - Subsection (D) isolates the procedures which must be implemented and maintained within an Enhanced Source Control Plan (ESCP), representing the component submitted to the Department with the AWP application, and which includes a list of each ESCP requirement;
 - Subsection (E) retains the source control committee; and
 - Subsection (F) includes the general standard applicable to developing, conducting, and maintaining an

enhanced source control program.

- 2) **Clarified Legal Authority Requirements.** Under subsection (C), the Department proposes to clarify the legal authority requirements for an enhanced source control program. While a majority of this clarification is satisfied through the structural reorganization described above, clarification is also added through direct applicability language. Specifically, subsection (C)(2) clearly requires AWP project enhanced source control legal authority to apply to certain activities and functions of potentially impactful non-domestic dischargers, as enumerated. This reduces confusion over the scope and applicability of the enhanced source control program, by directly tying it to the entities intended to be regulated.
- 3) **Updates for Tribal Considerations.** The Department proposes to address certain tribal considerations relevant to the enhanced source control program. Specifically, in subsection (C)(1) the Department is proposing to add “Federal” to the existing list of venues in which the program must be enforceable. The resulting language is, “[t]he AWP project shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the AWP project to apply and enforce the enhanced source control requirements of this section”. This amendment is proposed in order to accommodate federal jurisdiction over tribal entities, as necessary depending on the nature of their agreements and involvement with the AWP project. Furthermore, when establishing minimum legal authority requirements in subsection (C)(2), the Department proposes to provide a clear exception for tribal sovereignty conflicts. The purpose of this exception is to clarify that the AWP program’s jurisdiction does not extend into sovereign territory.
- 4) **Addition of Class-Listing Process for Non-Domestic Discharger Identification.** The Department proposes to facilitate greater ease for the applicant when identifying non-domestic dischargers in the AWP project’s collection system. The existing rule requires a list of non-domestic dischargers and a subset list of potentially-impactful non-domestic dischargers (PINDDs). As a result of stakeholder engagement and discussion, the Department acknowledges that the information obtained from this exercise may be achieved by individually listing each discharger and/or classifying dischargers by characteristics, business type, etc. A list of NDDs or PINDDs with individual dischargers or classes of dischargers is acceptable and meets the rule’s intention of ensuring that the AWPRA is aware of the contributing sources to their AWP project. Therefore, this allowance is explicitly added within subsections (D)(2)(a) and (D)(2)(c), as proposed.
- 5) **Amendments to Early Warning Program Requirements.** The Department proposes to edit the requirements of an early warning program proportional to early warning system technological limitations and feasibility. Based on maintenance considerations, and detection and tracing abilities of existing early warning system technologies, the requirements in subsection (D)(i) are proposed to be bifurcated into requirements and optional additional measures. Specifically, the Department requires: i) the development and maintenance of an early warning program, ii) online

monitoring instrumentation for real-time evaluation; iii) establishment of instrumentation at specific locations; iv) the scope of instrumentation measurements; and v) a notification process for potential interferences. All other requirements surrounding early warning systems in the current rule are proposed to be changed to additional optional measures available to the applicant. Following stakeholder engagement on this topic, the Department believes that this proposal remains equally protective because this component of the ESCP is more readily achievable and operationally effective.

R18-9-E825. Tier 1 Chemical Control

At proposed R18-9-D825, this rulemaking proposes to remove the “Maximum Contaminant Levels” language from the rule’s title, align the quoted language referencing the National Primary Drinking Water Regulations with the language in the Code of Federal Regulations and remove language in order to let the reference to 40 CFR Part 141 as incorporated by reference in R18-4-102 stand alone. ADEQ believes these edits add clarity to the rule.

R18-9-E826. Tier 2 Chemical Control; Advanced Water Purification-Specific Chemicals

The amendments to this section are summarized as follows: 1) Restructuring and Clarifying of the Chemical Inventory Triggers and Amendment Requirement; 2) Restructuring and Clarifying of the Chemical Inventory List Requirement; 3) Restructuring and Clarifying of the Tier 2 Analysis Requirement; 4) Method Reporting Limit Addition to the Proposed Action and Alert Levels Language; 5) Relocating the “Pass-Through or Interference Chemical List”; 6) Restructuring and Clarifying the “Projected Tier 2 Chemical Treatment List”; and 7) Reorganization and Consolidation of Modification and Amendment Requirements.

- 1) Restructuring and Clarifying of the Chemical Inventory Triggers and Amendment Requirement. At proposed R18-9-E826(A)(3), this rulemaking proposes to make explicit the requirement to submit an amendment to ADEQ if a new Tier 2 analysis conducted in response to any trigger in subsection (A)(2) results in the designation of additional Tier 2 chemicals. However, this rulemaking also proposes to qualify which newly identified potentially impactful non-domestic dischargers (PINDDs) trigger such an amendment at R18-9-E826(A)(2)(a)(i). The qualification includes whether the PINDD is likely to, or will, significantly impact the concentration of an existing constituent of concern or significantly discharge chemicals into the collection system that are likely to become constituents of concern. This qualification language allows the permittee to determine whether this newly identified PINDD will significantly affect their process or not, which ADEQ believes is the adequate measure of discretion in this circumstance. The previous rule language does not provide discretion and does not make clear the subsequent amendment requirement.
- 2) Restructuring and Clarifying of the Chemical Inventory List Requirement. At proposed R18-9-E826(B)(1), this rulemaking proposes to combine the previously established “Non-Domestic Dischargers List” and “Chemical Inventory List” subsections. Also at this proposed location, there is revised language proposing to retool the

requirements of the chemical inventorying process itself in an effort to make the process more practical and implementable, while at the same time, maintaining its function in protectively defining the universe of chemical constituents that may end up in a sanitary sewer system that could make their way to the influent of an Advanced Water Treatment Facility (AWTF). The previous rule language required individually listing all non-domestic dischargers (NDDs) in an AWTF's sewershed and then listing all chemicals that are used, stored, or discharged from those NDDs. The scope of the aforementioned process has since been determined to be too broad, burdensome, and not properly exacting in scope. The proposed process limits the chemical inventory to chemicals that are used, stored or discharged from PINDDs within the AWTF sewershed. PINDDs are a subset of NDDs, which allows the permittee to prioritize the analysis effort towards dischargers in the sewershed which could impact processes or treated water quality. Furthermore, the proposed rule allows PINDDs to be listed individually or through a bulk, "class-representative". This approach allows a permittee to simplify their inventory process by analyzing one PINDD that best represents the entire class of PINDDs for the chemical inventory purpose (example: Home Improvement stores, Nail Salons, etc.). Lastly, the proposed language now includes at R18-9-E826(B)(1)(a)(i) through (III) definitions of the operative words of the inventory ("used", "stored" and "discharged"). This addition allows the inventory to be further shaped and scoped in an effort to make the process more approachable and implementable for the permittees by shifting the analysis towards chemicals which could feasibly reach the AWTF. Collectively, ADEQ believes the rule language proposal for the Chemical Inventory requirement of this rule meets the goal of being more implementable, while maintaining proper protection of public health.

- 3) Restructuring and Clarifying of the Tier 2 Analysis Requirement. At proposed R18-9-E826(C), this rulemaking proposes a restructuring of the Tier 2 analysis for the purpose of making it more practical, implementable, efficient, while at the same time, maintaining its protective standard. The previous rule began with a series of steps that took the chemicals compiled from the Chemical Inventory List and required calculating a projected daily concentration (PDC) of that chemical at the influent point of the AWTF. Instead of starting with PDC, the proposed rule starts the analysis with a "filtering step" which requires the applicant to determine whether the individual chemical being analyzed has an "available testing method".

In the interim between the March 2025 rulemaking which first put the AWP rules into effect and this proposed rule, ADEQ has determined that regulating a Tier 2 chemical for compliance must be limited to those chemicals which have a validated testing method that can produce reliable data which can become the basis for a compliance analysis. Those inventoried chemicals that do not have an "available testing method", as proposed to be defined in R18-9-A801(18), do not have a scientific means to be regulated and thus are removed from the Tier 2 analysis. Proposed subsection (C)(2) is a procedural step in the analysis where the remaining chemicals resulting from

proposed (C)(1) must be compared to the 2018 EPA Health Advisories Table, the ADEQ Departmental Health Advisories List and the Other States' Health Advisories List, referenced in proposed subsections (C)(4)(a), (b) and (c), in order to determine whether the chemical has a listed Health Advisory (HA) in one of those sources. These HA Lists, along with the Oral Toxicity Value List, are explained in more detail in the final paragraph of this explanation. The chemicals that have an HA from those sources are proposed to move on to the next analytical step in the subsection (C)(2)(a), while those that do not are proposed to be further analyzed under subsection (C)(6).

Proposed subsection (C)(2)(a) directs all of these chemicals and the chemicals with an applicant-proposed health advisory pursuant to proposed (C)(6) (described below) to develop either a projected daily concentration (PDC) or an actual daily concentration (ADC) of the chemicals in the treated wastewater source to the AWTF. Here, the proposed rule allows the applicant to choose which method of daily influent concentration development is most approachable for each inventoried chemical with an available testing method under the subsection. Allowing both PDC and ADC methods would give applicants flexibility in the early stages of data gathering in an AWP project while providing actual analytical data in lieu of an estimation. The PDC process in proposed (C)(3) is a simple dilution calculation to determine the PDC for an individual chemical. This PDC rule language remains similar to the process in the existing rule except for the addition of language that accommodates PDC calculations for both individual PINDDs and class-representative PINDDs (described above). The proposed ADC process in subsection (C)(5) describes an alternative to the PDC process which would allow an applicant to conduct a period of preliminary, empirical sampling for an inventoried chemical to ascertain an *actual* daily concentration value of the chemical instead of the *projected* daily concentration calculations and value. After daily concentration development, the proposed rule requires all chemicals with a corresponding HA from (C)(4)(a), (b) and (c) to then take their developed ADC or PDC, compare the value against the HA itself, and if the value exceeds the HA, the chemical becomes a Tier 2 chemical, with required ongoing monitoring and compliance in the prospective permit.

All chemicals in the inventory that were determined to not have HAs in the lists under proposed subsections (C)(4)(a), (b) and (c) are to be analyzed under proposed (C)(6), entitled "Proposed Health Advisory Chemicals". Proposed subsection (C)(6) serves as the final analytical step in the Tier 2 analysis and effectively proposes to replace rule language in the original Tier 2 analysis that was centered around toxicological measures including a chemical's Reference Dose (RfD) or Cancer Slope Factor (CSF) in peer-reviewed literature and bioanalytical and bioassay chemical testing. The chemicals to be analyzed in this proposed subsection start by determining whether the chemical has an acute or chronic toxicological effect which is in federally established databases called the "Oral Toxicity Values List".

The Oral Toxicity Value List is explained in more detail in the final paragraph of this explanation. The proposed rule

continues by stating that if a corresponding Reference Dose (RfD) or Cancer Slope Factor (CSF) is found for the chemical in the list, the applicant then must submit in a short report to the Department and/or Project Advisory Committee (PAC), the calculated and proposed health advisory level for the chemical based on formulas listed in the proposed rule. The formulas used in rule are used by the EPA and other States to determine health advisory levels for chemicals that are currently regulated. The Department and/or the PAC would then review and comment on the report. The applicant would then develop either a projected daily concentration (PDC) or an actual daily concentration (ADC) for each chemical and then compare the developed daily concentration against the proposed health advisory (HA). If the value exceeds the proposed HA, the chemical becomes a Tier 2 chemical, with required ongoing monitoring and compliance in the prospective permit. Under the proposed rule, chemicals from the Subsection (B) Chemical Inventory List that do not have a corresponding HA in (C)(4)(a), (b) and (c), nor a corresponding RfD or CSF in the Oral Toxicity Values List are not Tier 2 chemicals.

In the original AWP rulemaking (31 A.A.R. 1069), ADEQ proposed that regulated Tier 2 chemicals would be contaminants identified under a chemical inventory and analysis that are not regulated in the Safe Drinking Water Act, but are present in the treated wastewater source and may pose human health concerns. ADEQ also stated that due to elevated health concerns with the treated wastewater source of AWTFS and likewise protections in similar regulatory programs and facilities around the world, the Department proposed to require applicants and permittees to generate and maintain a Tier 2 chemical list for treatment or source control (regulation). In the current rulemaking, ADEQ proposes the AWP program to operate under the same Tier 2 premise and framework, but limit the universe of potential Tier 2 chemicals to a defined, implementable and practical compilation of inventoried chemicals, that are not Tier 1 chemicals (EPA Maximum Contaminant Levels) and have an available testing method (see proposed definition of “available testing method” in R18-9-A801) for analysis. Further proposed, once a regulated party’s chemical inventory is compiled, a chemical can only become a Tier 2 chemical if its PDC or ADC exceeds a listed or proposed HA in, or developed from, a closed list of four source databases:

- The 2018 EPA Health Advisories Table (EPA HA Table),
- The ADEQ Departmental Health Advisories List (Departmental List),
- The Other States’ Health Advisories List (Other States’ List), and
- The Oral Toxicity Value List (OTV List),

The first of which is the Environmental Protection Agency’s (EPA) “2018 Edition of the Drinking Water Standards and Health Advisories Tables” (EPA HA Table). In most cases, an applicant’s Tier 2 list determination and associated action levels would continue to be derived from this source. The second is the proposed “Departmental Health Advisories List.” As was described in the original AWP rulemaking (31 A.A.R. 1069), ADEQ endorsed California’s Trimethylbenzene chemical notification level from their drinking water regulations, as well as, eight

Departmentally-generated health advisories that were generated because those eight chemicals are the only ones in the EPA HA Table without health advisory values (see further explanation in original AWP Notice of Final Rulemaking at (31 A.A.R. 1074). In generating those HAs, the Department uses the same formulas and assumptions EPA used to develop the EPA HA Table, which can be found in the EPA publication, "Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)" (see Heading No. 7 below for other studies leveraged in generating these health advisories). The third is the proposed "Other States' Health Advisory List" which compiles published drinking water health-advisory notifications in U.S. states other than Arizona where no federal value exists in the EPA HA Table. In compiling the list, the drinking water health-based value programs of all fifty states and the District of Columbia were reviewed. Most states adopt the federal National Primary Drinking Water Regulations by reference and publish no additional constituents. Six states maintain programs that establish drinking water health-based values beyond the federal list, including California, Massachusetts, Michigan, Minnesota, New Jersey and Wisconsin. The fourth is the proposed "Oral Toxicity Value Table" or List which publishes available Reference Doses (RfD) or Cancer Slope Factors (CSF) for chemicals that are known to have potential health effects of chronic exposure. The sources of the OTV List are the U.S. EPA Integrated Risk Information System (IRIS), the U.S. EPA Provisional Peer-Reviewed Toxicity Values (PPRTV), and the Oak Ridge National Laboratory Risk Assessment Information System (RAIS). The IRIS database is the EPA-created, endorsed and maintained standard repository of chemical-specific human health toxicity values. The PPRTV database includes toxicity assessments that are created, endorsed and maintained by EPA in support of the Superfund program and the management of hazardous waste sites. The RAIS database is authorized under the U.S. Department of Energy and created, endorsed and maintained by the Oak Ridge National Laboratory (ORNL) for the purpose of integrating toxicity data and physical-chemical parameters into functional calculators. RAIS aggregates data from IRIS, PPRTVs, and other platforms. All three databases are widely cited in Direct Potable Reuse (a.k.a. - Advanced Water Purification) literature.

- 4) Method Reporting Limit Addition to the Proposed Action and Alert Levels Language. At proposed R18-9-E826(C)(V)(a)(iv) and (v), as well as subsection (C)(7)(e), this rulemaking proposes to address method detection and reporting limit issues in the Tier 2 procedure. Subsection (C)(5) details the procedure for conducting Actual Daily Concentration Monitoring (ACDM) for selected inventoried chemicals. When a regulated party conducts ACDM, they have already determined that chemical to have an available testing method. However, each method has both a Method Detection Limit (MDL) and a Method Reporting Limit (MRL). The MDL is the absolute minimum concentration of a substance that the method can detect, while the MRL is the lowest concentration that a method can consistently quantify with an acceptable level of precision and accuracy under normal working conditions. For practical reasons, if a regulated party's ACDM sample result is above the chemical's MDL, but

below the chemical's MRL, ADEQ proposes that the sample shall be reported at the MRL. Also, ADEQ proposes here that if an ACDM sample result is below the MDL, the sample shall be reported as a "non-detect".

Subsection (C)(7) is entitled, "Proposed Action and Alert Levels". At (C)(7)(e)(i), ADEQ proposes that when a regulated party has utilized the projected daily concentration (PDC) method of developing a chemical's daily concentration, the chemical is then subsequently determined to be a Tier 2 chemical under subsections (C)(4) or (C)(6), and that chemical's PDC is calculated to be at or between the chemical's corresponding health advisory – or proposed health advisory – and the MRL, then the chemical's alert level shall be set at the MRL and its action level shall be set at a value 20% higher than the MRL. The reason for this proposal is that ADEQ prefers usage of reliable data when setting alert and action levels. Also, the alert and action levels must be staggered reasonably. At (C)(7)(e)(i), for the actual daily concentration (ADC) method of developing a chemical's daily concentration, ADEQ likewise proposes that the chemical's alert level shall be set at the MRL and its action level shall be set at a value 20% higher than the MRL if the chemical is determined to be a Tier 2 chemical under subsections (C)(4) or (C)(6), and that chemical's actual daily concentration is determined to be at the MRL.

- 5) Relocating the "Pass-Through or Interference Chemical List". In the original Tier 2 rule, the Pass-Through or Interference Chemical List (PTICL) requirement was located after the Tier 2 analysis steps at previous subsection (E). As a product of this revision, ADEQ now proposes this requirement to be moved into (B)(2), under the "Pre-Tier 2 Analysis Requirements" subsection. This relocation reflects the fact that, prior to the Tier 2 analysis, an AWPRA is required to generate a chemical inventory list and identify a PTICL. These are separate analyses and functions from the Tier 2 Analysis, but required to be conducted first. This is a chronological update that is intended to clarify the procedures required under R18-9-E826.
- 6) Restructuring and Clarifying the "Projected Tier 2 Chemical Treatment List". The proposed amendments include reorganizing the Projected Tier 2 Chemical Treatment List (PCTL) subsection so that all requirements related to the design, specifications, and monitoring methodologies of the pilot treatment facility are properly situated in R18-9-C815, the Pilot Study rule, and not in the Tier 2 rule. Subsection (D) of the proposed rule establishes that the proposed pilot treatment train should be informed by the PCTL and validated through the process prescribed in the pilot monitoring plan, and R18-9-C815 is updated accordingly.
- 7) Reorganization and Consolidation of Modification and Amendment Requirements. The proposed amendments include consolidating all language related to Tier 2 updates into subsection (A). The specific language about whether a new Tier 2 analysis triggers an AWP permit amendment is proposed to be relocated to subsection (A)(3) which provides that if any new Tier 2 analysis is triggered, and new Tier 2 chemicals are designated, the AWPRA "shall request an amendment to their AWP permit".

R18-9-E828. Pathogen Control

The proposed amendments to this Section include: 1) Clarification of Pathogen Performance Standards; and 2) Update Site-Specific Log Reduction Monitoring for Clarity and Uniformity with Initial Source Water Characterization

- 1) Clarification of Pathogen Performance Standards. The Department proposes to clarify, in subsection (A), that pathogen reduction performance requirements – the ability of the AWP project to achieve the cumulative validated treatment values for the reference pathogens – extends from the raw wastewater to the advanced treated water. Plainly, this means that pathogen reduction may be achieved, and credited, through applicable treatment processes at the water reclamation facility and the AWTF. Currently, this language only exists in subsection (B) for the standard log reduction approach and applies to, but is not explicitly written into, subsection (C), the site-specific log reduction approach. This creates confusion as to whether the standard differs between approaches. For either approach, the scope is the same – the AWP project shall achieve the enumerated cumulative validated treatment values for the reference pathogens from the raw wastewater starting location to the advanced treated water location. Therefore, adding this language to subsection (A), which applies to both subsections (B) and (C) properly aligns this requirement with the rule’s intention and clarifies it for applicants. Furthermore, the existing language states that the project shall achieve the enumerated cumulative validated treatment values “from raw wastewater to finished water”. The term “finished water” was previously defined in this Article, but has been removed in this rulemaking (see explanation under R18-9-A801). Therefore, this term has been replaced with the proper term “advanced treated water” which aligns the rule with the definitions and has no substantive impact on its function.

This proposed update does not change the available pathogen log reduction approaches: the standard log reduction and site-specific log reduction approach. The standard log reduction approach provides a straightforward, conservative, strategy for the design of an AWP project, and the site-specific log reduction approach provides design flexibility and the opportunity to reduce log reduction values by accounting for reference pathogen monitoring conducted during initial source water characterization.

- 2) Update Site-Specific Log Reduction Monitoring for Clarity and Uniformity with Initial Source Water Characterization. The Department proposes adding clarity to subsection (C)(1) which establishes the time period for site-specific pathogen monitoring under initial source water characterization. Currently the rule requires that pathogen monitoring be conducted “over a period of at least 24 months”. The Department proposes to clarify that the period is at least 24 “consecutive” months. This proposed addition does not change the impact of the rule, but further clarifies the intention for monitoring to be adequately representative of a two-year period, including seasonal variability.

Additionally, The Department proposes to clarify the pathogen sampling language in subsection (C)(3) in order to align it with the sampling requirement under the initial source water characterization rule (see R18-9-C814(C)).

This subsection applies to applicants electing to utilize the site-specific pathogen log reduction approach, and requires treated wastewater characterization for pathogens. Under this subsection, the applicant is required to conduct initial source water characterization for pathogens by following the outlined procedure. However, the sampling location for pathogen monitoring is already prescribed in R18-9-C814(C)(1). Therefore, this proposed change removes the existing sampling language and replaces it with a reference back to subsection (C)(1) of the initial source water characterization rule, to avoid redundancy. Currently, this redundancy results in slightly different language in both locations which is not in-line with the program's intent, and is operationally confusing.

R18-9-E829. Ongoing Monitoring Requirements

At proposed R18-9-D829(D)(8)(a)(ii), this rulemaking proposes to add language to clarify the advanced response procedure requirements; specifically, to state that if the advanced treated water compliance location is the same as the entry point to the distribution system compliance location, report the specific exceedance in the applicable public water system's annual consumer confidence report. At proposed R18-9-E829(A), this rulemaking proposes to remove subsection (4), which includes the term "finished water", in accordance with the explanation for removing the term in the Heading No. 6 entry for R18-9-801 – "advanced water purification". An additional reason for this proposed removal is to allow any Safe Drinking Water Act requirements to stand alone, outside of the AWP program's regulations.

R18-9-E830. Reporting Requirements

At proposed R18-9-E830(E), this rulemaking proposes to remove the reference to R18-9-E827 in order to let the reporting requirements in the AWP permit stand alone.

R18-9-E831. Annual Report

At proposed R18-9-E831(A), this rulemaking proposes to remove the requirement for an AWPRA to have an annual report submission be *postmarked* no later than March 30th. The proposed language removes the word "postmarked", allowing submission to come in using electronic forms, which is the modern standard. Also, at R18-9-E831(B), this rulemaking proposes to add the following required components of an annual report: a summary of whether any updates are required pursuant to R18-9-E826(A)(2), a summary of the available testing method evaluation required pursuant to R18-9-E826(D)(6), and an updated operations plan pursuant to R18-9-F836. ADEQ believes these additions will help with the ongoing administration of the program and are practical, and marginally burdensome on the regulated party.

R18-9-F832. Minimum Design Requirements

The proposed amendments to this Section include: 1) Pathogen Log Reduction Values Validation Clarification; 2) Method Detection Limit Language Moved; 3) Pipeline Conveyance of Treated Wastewater Influent Language Addition; 4) Finished Water Term Removal.

- 1) Pathogen Log Reduction Values Validation Clarification. At proposed R18-9-E832(B)(9), (10) and (11), this rulemaking proposes to better clarify that the required pathogen log reduction value validation process can be achieved through either Presumptive pathogen removal credits based on existing validation studies (proposed (B)(10)) or through On-Site Validation Studies (proposed (B)(11)). The requirements for each validation process are listed in the proposed subsections within (B)(10 and (B)(11).
- 2) Method Detection Limit Language Moved. At previous R18-9-E832(D), this rulemaking proposes to remove the Method Detection Limit language and move a revised version of it into what the Department believes is the more applicable and appropriate location in the Tier 2 rule at proposed R18-9-E826(C)(5)(a)(iv) and (v), as well as (C)(7)(e).
- 3) Pipeline Conveyance of Treated Wastewater Influent Language Addition. At proposed R18-9-E832(F), this rulemaking proposes to add requirements for pipeline conveyances of the treated wastewater influent to an Advanced Water Treatment Facility (AWTF). Proposed requirements include the usage of best industry practices, design standards, specific requirements on the usage of gravity versus pressure lines, required tests on the lines, force mains, scour and bed degradation, minimum separation and pump lift stations.
- 4) Finished Water Term Removal. At proposed R18-9-F832(B)(1) and (C)(1), this rulemaking proposes to remove “or distribution” in accordance with the explanation for removing the “finished water” in the Heading No. 6 entry for R18-9-801 – “advanced water purification” above.

R18-9-F833. Technical, Managerial, and Financial Demonstration

The proposed amendments to this Section are non-substantive capitalization changes to applied definitions.

7. **A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

ADEQ reviewed hundreds of studies relevant to the development of the AWP program. Those studies informed and shaped the program and were relied upon to various degrees. ADEQ evaluates and justifies usage of the data in the studies relied upon in its “*Advanced Water Purification Proposed Program Roadmap*” (“Roadmap”). The public may review the Roadmap online at the following website: <https://static.azdeq.gov/wqd/awp/roadmap.pdf>. The public may review a list of the studies relied upon as cited references in Section 7 of the Roadmap or may obtain copies of any study from the Department by request. Requests can be submitted to the Department by email at reuserulemaking@azdeq.gov or by mail to Arizona Department of Environmental Quality, 1110 W. Washington Ave. Phoenix, AZ 85007.

Between the AWP Roadmap release in November of 2023 and the effective date of the AWP rules in March of 2025, ADEQ relied upon additional studies in the further development of the program, which are listed in Heading 7 of the

Notice of Final Rulemaking (31 A.A.R. 1078).

In the time period after the effective date of the AWP rules in March of 2025 leading up to these proposed rules ADEQ has relied upon the following additional studies in the further development of the program, which are listed below and on file with the agency. Requests for a copy of the following studies can be submitted to the Department by email at awp@azdeq.gov or by mail to Arizona Department of Environmental Quality, #160 – 1110 W. Washington Ave., Phoenix, AZ 85007:

- **Chemical Update Worksheet:**

- **Toxicity criteria on chemicals evaluated by Michigan Department of Environmental Quality:**

Summary: This is a study performed by the State of Michigan Department of Environmental Quality for Rule.

Study Resource: ADEQ incorporated the Reference Dose (RfD) or Oral Cancer Slope Factors (CSF) presented in this study for Benzo[g,h,i]perylene and Phenanthrene to establish Health Advisories. These compounds don't have a Health Advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables" and also lack reference doses or cancer slope factors across the EPA IRIS, PPRTV, and RAIS databases.

References:

- Michigan DEQ. Chemical update worksheet for Benzo[g,h,i]perylene [CASRN = 191-24-2]. 2015. Accessed 10/07/2024.
- Michigan DEQ. Chemical update worksheet for Phenanthrene [CASRN = 85-01-8]. 2015. Accessed 10/07/2024.

- **Toxicity criteria on chemicals evaluated by RAIS:**

Summary: The Risk Assessment Information System (RAIS) online database is maintained and operated by the Oak Ridge National Laboratory and used for human health and ecological risk assessment.

Study Resource: ADEQ incorporated the Oral Cancer Slope Factors (CSF) presented in this study for Benz[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Chrysene, and Indeno[1,2,3,-c,d]pyrene to establish Health Advisories. These compounds don't have a Health Advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables".

References:

- RAIS database. Chemical Toxicity Values for Benz(a)anthracene [CASRN = 56-55-3]. Accessed 08/24/2026.
- RAIS database. Chemical Toxicity Values for Benzo[b]fluoranthene [CASRN = 205-99-2]. Accessed 08/24/2026.
- RAIS database. Chemical Toxicity Values for Benzo[k]fluoranthene [CASRN = 207-08-9]. Accessed

08/24/2026.

- RAIS database. Chemical Toxicity Values for Chrysene [CASRN = 218-01-9]. Accessed 08/24/2026.
- RAIS database. Chemical Toxicity Values for Indeno[1,2,3,-c,d]pyrene [CASRN = 193-39-5].

Accessed 08/24/2026.

- **Toxicity criteria on chemicals evaluated by PPRTV:**

Summary: The Provisional Peer-Reviewed Toxicity Values (PPRTVs) online database is maintained and operated by the US EPA, primarily derived for use in EPA's Superfund Program.

Study Resource: ADEQ incorporated the reference dose presented in this study for Dimethyl phthalate to establish Health Advisories. These compounds don't have a Health Advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables".

Reference: PPRTV database. Derivation of a screening value for Dimethyl phthalate [CASRN = 131-11-3]. Accessed 08/24/2026.

- **California Division of Drinking Water:**

Summary: This is a study performed by the California Division of Drinking Water for Rule (2001).

Study Resource: ADEQ incorporated the Notification Level of 0.33 mg/L established for Trimethylbenzene (1,2,4-). This compound does not have a Health Advisory in EPA's "2018 Edition of the Drinking Water Standards and Health Advisories Tables".

Reference: California Division of Drinking Water (2001). Drinking Water Notification Level for Trimethylbenzene (1,2,4-) [CASRN = 95-63-6]. Access date: 08/24/2026.

- **2018 Edition of the Drinking Water Standards and Health Advisories Tables:**

Summary: This EPA publication summarizes EPA's drinking water regulations and health advisories, along with reference dose and cancer risk values, for drinking water contaminants.

Study Resource: ADEQ incorporated this table by reference at R18-9-E826(C)(4)(a) as the primary source of health advisory values for the Tier 2 analysis, and as the basis for action levels under R18-9-E826(C)(7)(a). It is also the reference point for identifying chemicals lacking health advisory values, which necessitated development of the Departmental Health Advisory List.

Reference: U.S. Environmental Protection Agency, Office of Water. 2018 Edition of the Drinking Water Standards and Health Advisories Tables. EPA 822-F-18-001. Washington, DC; March 2018. Access date: 08/24/2026.

- **Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000):**

Summary: EPA's guidance establishing the formulas and default exposure assumptions used to derive human health-based water criteria.

Study Resource: ADEQ applied the formulas and exposure assumptions in this document to derive the eight

Departmentally-generated health advisories at R18-9-E826(C)(4)(b), and to construct the RfD- and CSF-based proposed health advisory formulas at R18-9-E826(C)(6)(a)(iv) and (v).

Reference: U.S. Environmental Protection Agency. Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000). EPA-822-B-00-004. Washington, DC; 2000. Access date: 08/24/2026.

- **Exposure Factors Handbook, Chapter 3: Ingestion of Water and Other Select Liquids:**

Summary: EPA compilation of drinking water ingestion rates used as standard exposure assumptions in risk-based value derivation.

Study Resource: ADEQ relied on the standard body weight and drinking water ingestion assumptions in deriving Departmental health advisories and in the proposed health advisory formulas at R18-9-E826(C)(6)(a)(iv) and (v).

Reference: U.S. Environmental Protection Agency, Office of Research and Development. Exposure Factors Handbook Chapter 3 (Update): Ingestion of Water and Other Select Liquids. EPA/600/R-18/259F. Washington, DC; 2019. Access date: 08/24/2026.

- **Toxicity criteria on chemicals evaluated by IRIS:**

Summary: The Integrated Risk Information System (IRIS) is EPA's repository of peer-reviewed chemical-specific human health toxicity values, including reference doses and oral cancer slope factors.

Study Resource: ADEQ incorporated IRIS as one of three source databases comprising the Oral Toxicity Values List referenced at R18-9-E826(C)(6). IRIS is the primary of the three, consulted before PPRTV and RAIS.

Reference: U.S. Environmental Protection Agency, Integrated Risk Information System (IRIS). Access date: 08/24/2026.

- **Office of Research and Standards Guidelines (ORSG), Massachusetts Department of Environmental Protection:**

Summary: ORSGs are drinking water guidance values derived by the Massachusetts Department of Environmental Protection Office of Research and Standards for chemicals lacking MCLs, established using risk assessment methods consistent with those used by EPA's Office of Water. For chemicals with evidence of carcinogenicity, ORSGs are set at the lowest practical quantitation limit or at an excess lifetime cancer risk of one in one million.

Study Resource: ADEQ reviewed the ORSG list and incorporated its drinking water guidance values into the Other States' Health Advisory List referenced at R18-9-E826(C)(4)(c).

Reference: Massachusetts Department of Environmental Protection, Office of Research and Standards. Standards and Guidelines for Contaminants in Massachusetts Drinking Waters. Accessed 8/24/2026.

- **Human Health-Based Water Guidance Table, Minnesota Department of Health:**

Summary: The Minnesota Department of Health (MDH) publishes Health Risk Limits (promulgated in

rule), Health-Based Values (technical guidance calculated using the HRL Rules methodology but not promulgated), and Risk Assessment Advice. MDH derives these values using a relative source contribution factor as required by the Groundwater Protection Act, relying on EPA's Exposure Decision Tree approach for default RSC values.

Study Resource: ADEQ reviewed the MDH guidance table in compiling the Other States' Health Advisory List at R18-9-E826(C)(4)(c).

Reference: Minnesota Department of Health. Human Health-Based Water Guidance Table. Accessed 8/24/2026.

- **Drinking Water and Groundwater Quality Standards / Advisory Levels, Wisconsin Department of Natural Resources:**

Summary: The Department of Natural Resources (WDNR) publishes tables listing ch. NR 809 Safe Drinking Water maximum contaminant levels (MCLs), Wisconsin groundwater quality enforcement standards, and drinking water health advisory levels established by the Wisconsin Department of Health Services or EPA.

Study Resource: ADEQ reviewed these tables in compiling the Other States' Health Advisory List, incorporated by reference at R18-9-E826(C)(4)(c). ADEQ incorporated health advisory levels established by the Wisconsin Department of Health Services for chemicals lacking a federal value.

Reference: Wisconsin Department of Natural Resources. Drinking Water and Groundwater Quality Standards/Advisory Levels, Tables I and II. Accessed 8/24/2026.

- **Ground Water Quality Standards, New Jersey Department of Environmental Protection:**

Summary: The New Jersey Department of Environmental Protection (NJDEP) publishes specific ground water quality criteria and Practical Quantitation Levels at N.J.A.C. 7:9C Appendix Table 1, derived to protect human health. Where NJDEP promulgates an MCL at N.J.A.C. 7:10, the health-based level used to establish that MCL becomes the specific ground water quality criterion for the constituent, and criteria are modified when EPA revises the cancer slope factor or reference dose in IRIS.

Study Resource: ADEQ reviewed these tables in compiling the Other States' Health Advisory List, incorporated by reference at R18-9-E826(C)(4)(c). ADEQ incorporated health advisory levels established by the NJDEP for chemicals lacking a federal value.

Reference: New Jersey Department of Environmental Protection. Ground Water Quality Standards, N.J.A.C. 7:9C, Appendix Table 1 — Specific Ground Water Quality Criteria. Accessed 8/24/2026.

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable.

9. The preliminary summary of the economic, small business, and consumer impact:

In accordance with A.R.S. § 41-1055 and A.A.C. R1-1-502(B)(12), the Department has evaluated the preliminary economic, small business, and consumer impacts of this proposed rulemaking. Establishing the Advanced Water Purification (AWP) program was mandated by the Arizona State Legislature under A.R.S. § 49-211. Participation in AWP is non-compulsory, serving as an opt-in regulatory framework for water provider agencies seeking to purify treated municipal wastewater for local supply augmentation. While the comprehensive AWP regulatory structure became effective in March 2025, ongoing stakeholder implementation discussions identified targeted regulatory refinements to enhance program efficiency and affordability without reducing public health safeguards. Because Title 18, Chapter 9 contains the primary programmatic rules governing AWP permitting, design, chemical control, and operations, this proposed rulemaking comprehensively updates Article 8 provisions. While the primary objective of this rulemaking is to enhance program implementability, reduce administrative overhead, and lower compliance costs for participating water provider agencies, these amendments do not compromise or diminish the public health and environmental safety standards of the AWP program. The foundational regulatory safeguards established in this Article pursuant to A.R.S. § 49-211—including multi-barrier pathogen reduction, chemical control thresholds, and rigorous operational oversight—remain intact. Rather than relaxing safety thresholds, these proposed revisions optimize compliance mechanisms so that regulatory mandates are scientifically achievable, operationally practical, and aligned with measurable risk. Consequently, the rule updates eliminate unnecessary regulatory burdens while fully preserving the stringent health protections governing Arizona's public water supplies.

The preliminary economic assessment for the Chapter 9 amendments is summarized as follows:

- (1) Economic Impact on State Agencies and Regulated Water Providers. The primary entities affected by this rulemaking include the Department, state and local government agencies, public and private water provider agencies, certified operators, and water customers. The proposed amendments diminish potential capital, operational, and administrative costs for participating utilities through targeted program refinements across Chapter 9 such as:
 - Analytical Testing & Tier 2 Chemical Control (R18-9-A802 & R18-9-E826): Replaces an open-ended, unbounded chemical evaluation framework with a structured, transparent, and highly implementable process. Under the current rules, applicants are required to inventory all non-domestic dischargers (NDDs) and list every chemical used, stored, or discharged within the sewershed. This requires permittees to analyze all identified constituents against health advisory values, even if conducting complex, costly

bioassays or bioanalytical studies is necessary. The proposed amendments refine and bound this process by:

- Targeting High-Priority Dischargers: Narrowing the mandatory inventory scope from all NDDs strictly to Potentially Impactful Non-Domestic Dischargers (PINDDs) and authorizing "class-representative" groupings (e.g., home improvement stores or nail salons) to simplify data collection,
- Defining Operative Scope: Incorporating explicit definitions for "used," "stored," and "discharged" to confine the chemical inventory strictly to constituents that will reasonably be present in the source water reaching the AWTF,
- Creating a Testing Method Off-Ramp: Establishing a preliminary screening step requiring an "available testing method" before a chemical can be subjected to Tier 2 analysis, eliminating unachievable testing mandates and open-ended bioanalytical research obligations for constituents lacking validated analytical procedures,
- Bounding the Tier 2 Chemical Universe: Transforming an "infinite," unknown constituent space into a finite, predictable framework anchored by clear boundaries. A chemical can only become a Tier 2 constituent if it is listed in, or derived from, four closed source reference databases in, or incorporated by reference, in the rule.

This structural transition from an open-ended mandate to a bounded, predictable regulatory process eliminates unachievable laboratory requirements, lowers pre-application compliance costs for participating water providers, and ensures the Tier 2 chemical control framework is practical, cost-effective, and operationally achievable while maintaining rigorous public health protections.

- Dual-Track Demonstration Permitting (R18-9-C817): Introduces General Demonstration and Limited Consumption Demonstration permit tracks tailored for tasting facilities. These tracks grant explicit exclusions from submittals such as Full-Scale Verification Plans, Public Communications Plans, and Vulnerability Assessments, while providing Director "off-ramps" to waive additional unnecessary submittal requirements and potentially shorten initial source water characterization periods for limited-consumption facilities.
- Workforce & Operational Flexibility (R18-9-B804): Establishes a provisional operator certification pathway allowing utilities to train prospective AWP operators on-site, removes rigid eight-hour shift definitions to accommodate modern scheduling, and updates the alternative oversight request standard to a "reasonable degree" to facilitate automated and remote monitoring technologies.
- Enhanced Source Control & Design Standards (R18-9-E824, R18-9-C815 & R18-9-F832): Bifurcates early

warning system requirements into core feasible metrics and optional measures, establishes pipeline conveyance design requirements, and provides dual pathways (presumptive credits versus on-site validation) for pathogen log reduction credits.

The Department anticipates minimal operational cost impacts to its own budget, as clarified rules, standardized application components, and flexible permitting options will reduce technical review iterations and administrative processing time.

- (2) **Impact on Small Businesses.** Pursuant to A.R.S. § 41-1035, the Department evaluated the potential impact of these proposed amendments on small businesses. Because participation in the AWP framework is entirely voluntary, the rule imposes no direct regulatory burdens, compliance obligations, or mandatory licensing costs on small businesses. Additionally, allowing water providers to inventory non-domestic dischargers by class rather than requiring individual reporting minimizes administrative outreach burdens on small commercial dischargers within utility sewersheds. The rule makes no distinction between a water provider agency's duties to a small business versus any other consumer class. Consequently, the Department anticipates no significant or disproportionate adverse economic impact on small businesses.
- (3) **Impact on Consumers and Water Customers.** Decisions regarding rate adjustments, cost recovery, and customer fees remain strictly under the authority of individual public and private water provider agencies and their governing authorities. However, indirect economic impacts on consumers and utility customers are anticipated to be beneficial. By eliminating impractical testing mandates, expanding demonstration permit exclusions, modernizing operator staffing rules, and lowering overall compliance expenditures for water provider agencies, the proposed amendments reduce regulatory burden and operational overhead for participating utilities. To the extent that administrative and compliance expenditures influence a water provider's broader cost structure, a more streamlined and implementable permitting framework helps minimize regulatory overhead while enhancing long-term water supply reliability, drought resilience, and public health protection for Arizona communities.

10. The agency's contact person who can answer questions about the economic, small business and consumer impact statement:

Name: Jon Rezabek

Natalie Kilker

Title: Legal Specialists

Division: Water Quality

Address: Arizona Department of Environmental Quality, 1110 W. Washington Ave., Phoenix, AZ 85007

Telephone: (602) 771-8219

(602) 771-0358

Email: awp@azdeq.gov

Website: <https://azdeq.gov/rulemaking/awp-implementation-update>

11. The time, place, and nature of the proceedings to make, amend, repeal, or renumber the rule, or if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

Comments about this proposed rulemaking will be accepted via email at the email address provided below. Written comments about this proposed rulemaking will also be accepted in person at the address provided below, Monday through Friday from 8 a.m. to 5 p.m. except for state holidays. Mailed written comments shall be postmarked within 30 days of this published notice.

Email: awp@azdeq.gov

Mailing Address:

ADEQ

Attn: Bernice Shabi

Groundwater Section

Water Quality Division

#160

1110 W. Washington St.

Phoenix, AZ 85007

An oral proceeding is scheduled on this proposed rulemaking.

Date: October 20, 2026

Time: 1:00 PM MST

Location: GoToWebinar hosted by Arizona Department of Environmental Quality

Webinar Registration Link: <https://attendee.gotowebinar.com/register/5960573937949306462>

For those who wish to join by phone only:

Call: 415-655-0052

Access Code: 858-310-727

Important Note: Phone-only access does NOT provide the option for the participant to speak. Audio PINs are provided to participants once they have logged into the webinar via their computers. Without this PIN, participants will not have the option to unmute themselves if they join by phone only.

Nature: Virtual

Public comment period ends: October 19, 2026

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

There are no other matters prescribed by statute applicable specifically to ADEQ or this specific rulemaking.

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

Yes, this collective rulemaking proposes to amend the Advanced Water Purification regulatory program, which includes issuing individual permits, pursuant to A.R.S. § 49-211. While the product (advanced treated water or finished water) of an Advanced Water Purification regulatory program facility is substantially the same, the facilities, activities and practices regulated by the program are substantially different in nature due to the treated wastewater source, a multitude of viable technological process configurations, a swift pace of technological progress in the field and the custom nature of the regulated parties and their circumstances. Moreover, general permits are not “technically feasible” for the Advanced Water Purification regulatory program under A.R.S. § 41-1037(A)(3), and not used in the program.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

While the Safe Drinking Water Act (SDWA) (40 USC § 300f et seq.) does regulate the treatment and delivery of drinking water from public water systems across the United States, it does not explicitly regulate the treatment of “treated wastewater” (see proposed rule R18-9-A801) as a source, which is the subject of this proposed rule. In fact, SDWA only contemplates surface and ground water as sources for public water systems. Some Advanced Water Purification facilities will be considered public water systems for the purposes of the SDWA and regulated in accordance with the SDWA in addition to the proposed AWP program.

c. Whether a person submitted an analysis to the agency that compares the rule’s impact of the competitiveness of business in this state to the impact on business in other states:

Not Applicable.

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:

“Other States’ Health Advisory List. August 24, 2026 Version”	R18-9-A802(C)(2)(b); R18-9-E826(C)(4)(c)
“Oral Toxicity Values List. August 24, 2026 Version”	R18-9-A802(C)(2)(a); R18-9-E826(C)(6)
“ASTM F1417-21”	R18-9-A802(C)(3)(h); R18-9-F832(F)(4)(b)
“ASTM C1244-02e1”	R18-9-A802(C)(3)(a); R18-9-F832(F)(5)(d)

14. The full text of the rules follows:

Rule text begins on the next page.

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TITLE 18. DEPARTMENT OF ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER POLLUTION CONTROL

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ARTICLE 8. ADVANCED WATER PURIFICATION

PART A. GENERAL PROVISIONS

R18-9-A801. Definitions

In addition to the definitions in A.R.S. § 49-201, the following terms apply to this Article:

1. No Change
2. No Change
3. No Change
4. No Change
5. “Advanced treated water” means water produced by an advanced water treatment facility ~~(AWTF) and can be from one or more AWTFs that has undergone all treatment pursuant to this Article.~~
6. “Advanced Water Purification” or “AWP” means the treatment or processing of treated wastewater to advanced treated water ~~or finished water standards, under the program authorized by this Article, for human consumption without the use of an environmental buffer the purpose of delivery to a drinking water treatment facility or a drinking water distribution system.~~
7. “Advanced Water Purification permit” or “AWP permit” means a permit for a full-scale advanced water treatment facility which allows the provision of advanced treated water for human consumption pursuant to R18-9-C816 of this Article and, unless otherwise specified, includes an AWP demonstration permit pursuant to R18-9-C817 of this Article.
78. “Advanced Water Purification Responsible Agency” or “AWPRA” means the applicant or permittee, comprising one or more AWPRA Partners, responsible for compliance with the requirements of the AWP program for a particular AWP project and formed pursuant to R18-9-B805. An AWPRA must be a “person” under A.R.S. § 49-201(33).
89. “Advanced Water Purification Responsible Agency Partner” or “AWPRA Partner” means any entity that collects or provides treated wastewater to the AWP project, performs wastewater source control or treatment pursuant to this Article, or utilizes ~~AWP project advanced treated water as a drinking water source for delivery to a drinking water distribution public water system.~~
910. “Advanced Water Purification project” or “AWP project” means a project, and all related entities, involved with the planned introduction of advanced treated water from an AWPRA ~~all facilities related to the advanced treatment of treated wastewater to drinking water standards~~ operating under an AWP permit or demonstration permit.

- ~~4011.~~ “AWP project treatment train” means a treatment train designed to meet the requirements contained in this Article. In addition to the advanced water treatment facility ~~(AWTF)~~, portions of the water reclamation facility or drinking water treatment facility can be part of an AWP project treatment train.
- ~~4412.~~ “AWPRA facility” or “facility” means a drinking water treatment facility, advanced water treatment facility ~~(AWTF)~~, demonstration facility, or other AWPRA Partner facility collection system, or wastewater treatment plant involved in the production of advanced treated water ~~or finished water~~ under this Article.
- ~~4213.~~ “Advanced Water Treatment Facility” or “AWTF” means a facility where treated wastewater is treated pursuant to the requirements of this article, including a demonstration facility.
- ~~4314.~~ “Alert level” means a value or criterion established in an AWP permit at a critical control point that, when exceeded, alerts an operator that a potential problem may require a response.
- ~~4415.~~ “Amendment” means a change to the permit language resulting from a modification event.
- ~~4516.~~ “Aquifer Protection Permit” or “APP” means an individual permit or a general permit issued under A.R.S. §§ 49-203, 49-241 through 49-252, and Articles 1, 2, and 3 of this Chapter.
- ~~46.~~ ~~“AWP” means Advanced Water Purification (See R18-9-A801(6)).~~
17. “Barrier” means a measure (technical, operational or managerial) implemented to control microbial or chemical constituents in advanced treated water.
18. “Bench scale” means an isolated, small, laboratory-based testing environment where water treatment processes are simulated using volumetric equipment that fits entirely on a standard lab bench or inside a fume hood.
- ~~4819.~~ “Best Management Practices” or “Best Practices” means a set of principles, guidelines and standards that an AWPRA follows to ensure high levels of quality, safety, efficiency and reliability. -The principles, guidelines and standards in an AWP guidance document constitute Best Management Practice or Best Practice.
- ~~49.~~ ~~“Bioassay” means tests performed using live cell cultures or mixtures of cellular components in which the potency of a chemical or water concentrate is tested based on its effect on a measurable constituent, such as inhibition or the induction of a response (including carcinogenicity and mutagenicity). Bioassays can be used to measure synergistic, additive, and antagonistic interactions between compounds that may be present in a mixture.~~
20. “Blending” means the mixing of advanced treated water with another treated drinking water source, at a location prior to the entry point to the distribution system ~~that will result in raw water augmentation or treated water augmentation directly to the distribution system.~~ Blending does not apply to an Engineered ~~Storage Buffer~~ storage buffer where storage of only advanced treated water takes place.

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21. “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 concentration in the influent must be high enough to ensure that a measurable concentration is detected in the effluent (i.e., filtrate detection limit).
22. “Chemical” means any substance, used in or produced by a reaction involving changes to atoms or molecules, that has a defined composition and which is either naturally occurring or manufactured.
23. “Chemical peak” means an abnormal increase in the level of a chemical that represents a potential human health hazard that is the result of intentional or unintentional illicit discharges of chemicals to the sewershed. Chemical peaks are different from normal facility variation in water quality.
24. “Class-representative” means a potentially impactful non-domestic discharger that best represents a group or class of reasonably uniform potentially impactful non-domestic dischargers in terms of discharge characteristics. Class uniformity shall be based on similarity of business type, industrial classification code, chemicals used in production, and expected discharge volume and concentration ranges, as applicable. Class examples may include restaurants, home improvement, grocery stores, and clothing retail.
- ~~24~~25. “Compliance schedule” means a list of required items assigned by the Department to the ~~Permittee~~ permittee to be completed in the AWP permit.
26. “Composite sampling” means a single combined drinking water or wastewater sample created by collecting discrete sub-samples of equal volume at fixed, regular time intervals over a continuous 24-hour period, regardless of variations in the flow rate.
- ~~25~~27. “Constituent of ~~Concern~~ concern” means a potentially harmful or difficult to treat substance that could cause treatment interference, ~~pass-through~~, or a violation of a treatment technique requirement, action level, or Maximum Contaminant Level in the advanced treated water ~~or finished water~~. Constituents of concern include Tiers 1, 2, and 3 chemicals.
- ~~26~~28. “Constituent” means any physical, chemical, biological, or radiological substance or matter found in water and/or wastewater.
- ~~27~~29. “Continuous online analyzers” means a monitoring sensor or device that monitors continuously or in real time (intervals of 15 minutes or less) and is positioned directly in the process flow or sample line to measure treatment performance.
- ~~28~~30. “Critical ~~Control Point~~ control point” means a point in the treatment train that is specifically designed to reduce, prevent, or eliminate process failure, and for which controls exist to ensure the proper performance of that process, verified via monitoring.
- ~~29~~31. “Demonstration permit” means an AWP permit that does not include distribution of ~~finished~~ advanced treated water to drinking water consumers.
- ~~30~~32. “Department” means the Arizona Department of Environmental Quality.

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31. ~~“Direct integrity test” means a physical test applied to a membrane unit in order to identify and isolate integrity breaches, such as leaks that could result in contamination of the filtrate.~~
3233. “Director” means ~~the Director of the Arizona Department of Environmental Quality or the director’s designee.~~
A.R.S. § 49-201(11).
3334. “Disinfection treatment process” means a treatment process that either physically or chemically eliminates or inactivates pathogenic microorganisms.
3435. “Distribution” means ~~the act of delivering finished~~ introduction of advanced treated water to the public water system through a network of pipes or other constructed conveyances from a facility to a consumer for human consumption.
3536. “Distribution system” means the infrastructure used to carry out distribution.
3637. “Draft permit” means a preliminary draft of a permit upon which the Director has not yet made a final permit determination.
3738. “Drinking ~~Water Treatment Facility~~ water treatment facility” means a water treatment facility that is designed and operated to meet the requirements of the Safe Drinking Water Act.
3839. “Engineered ~~Storage Buffer~~ storage buffer” means a storage facility used to provide retention time before advanced treated water is introduced into a drinking water treatment facility or distribution system.
3940. “Enhanced ~~Source Control~~ source control” means a program that enables the AWPRA to prevent constituents of concern, including target chemicals, from negatively impacting the AWTF, or the water it produces, by controlling them at their source.
41. “Entry point to the distribution system” or “EPDS” has the same meaning as defined in R18-4-103(B).
4042. “Exceedance” means an increase in the concentration of a constituent of concern beyond an established level such as an MCL, alert level, or action level.
4143. “Excursion” means a deviation from established water quality boundaries for a process or at any point in a treatment train.
44. “Existing validation study” means a validation study conducted by an equipment manufacturer, a state or federal agency, a research institution, a water utility, or another entity, in any state, territory, or country, that establishes pathogen log reduction values for a treatment barrier using industry standard methods.
4245. “Failure” means a condition in which an excursion or loss of performance occurs in one or more of the unit processes that results in a treatment train to not meet a performance metric or deviate from an approved operational range for parameters, necessitating a shutdown of a specific train or the entire plant for compliance.

- ~~4346.~~ “Failure ~~Response Time~~ response time” means the maximum possible time from when a failure occurs in the treatment system to when the quality of the final product water is no longer affected by the failure. Failure response time is calculated as a sum of the sampling interval, sample turnaround time and system reaction time, with overall failure response time based on the treatment process with the highest individual failure response time.
- ~~4447.~~ “Filtration treatment process” means a treatment process that physically separates a constituent of concern from water.
- ~~4548.~~ “Finished water” or “finished drinking water” means water produced by an AWWTF or a drinking water treatment facility, ~~and which is introduced into a distribution system or served for human consumption without additional treatment, except for measures required to uphold water quality within the distribution system.~~
- ~~4649.~~ “Full scale” means the complete implementation and operation of an AWP system that is designed to treat treated wastewater to advanced treated water ~~or finished water~~ standards and to meet the ~~finished~~ water demand of the community.
- ~~4750.~~ “Good engineering practice” means a set of principles, guidelines, and standards that engineers follow to ensure their work meets high levels of quality, safety, efficiency and reliability. ~~–The principles, guidelines, and standards in an ADEQ-issued AWP guidance document constitute good engineering practice.~~
- ~~4851.~~ “Health Advisory” or “HA” means an estimate of acceptable levels for a chemical substance in drinking water based on health effects information ~~that is:~~
- ~~a. Published by EPA;~~
 - ~~b. Established in credible peer reviewed literature or state or Federal databases;~~
 - ~~c. Established by the Department; or~~
 - ~~d. Established by another state’s drinking water program as a “notification level”.~~
- ~~4952.~~ “Impactful non-domestic dischargers” means a non-domestic discharger that has been determined by the AWPRA to discharge in such a way that will or does significantly impact the AWPRA’s treatment processes and may or does significantly impact public health. ~~–Such determinations are made through a significant impact analysis pursuant to R18-9-E824(C)(D)(2)(b).~~
- ~~5053.~~ “Indicator compound” or “Indicator” or “Performance Based Indicator” means a chemical found in treated wastewater that serves as a representative substance for a particular group of trace organic compounds, embodying their physical, chemical, and biodegradation properties.
- ~~5154.~~ “Initial Source Water Characterization” or “ISWC” means baseline monitoring of chemicals and pathogens performed on the treated wastewater effluent of a Water Reclamation Facility pursuant to R18-9-C814.
- ~~5255.~~ “Interference” means a discharge which alone, or in conjunction with a discharge or discharges from other sources, both:
- a. ~~inhibits~~ Inhibits or disrupts the Water ~~Reclamation Facility~~ reclamation facility or the ~~Advanced Water Treatment Facility~~ AWTF, and

- b. ~~is~~ Is the cause of a violation of any requirement of the AWP permit.
- ~~53~~56. “Local limit” means a set of specific, local, relevant, and enforceable limits, control measures, and best management practices established to protect AWPRA Facilities from pass-through or interference that could result in a threat to public health.
- ~~54~~57. “Log reduction value” means the measure of a treatment train’s or a treatment process’s ability to remove or inactivate microorganisms such as bacteria, protozoa and viruses. A log reduction value is the log reduction validated or credited for a treatment process or treatment train.
- ~~55~~58. “Log reduction” means the logarithm base 10 of the ratio of the levels of a pathogenic organism or other contaminant before and after treatment or a reduction in the concentration of a contaminant or microorganism by a factor of 10. One log reduction corresponds to a 90-percent reduction from the original concentration.
- ~~56~~59. “Maximum Contaminant Level” or “MCL” has the same meaning set forth in Title 18, Chapter 4, Article 1 of this Title.
- ~~57~~60. “Modification” means a change or changes to the treatment train or operations or any other component that will result in a change in the water quality of any process, unit of operation or to the advanced treated water ~~or finished water~~.
- ~~58~~61. “Municipal wastewater” means wastewater that contains predominantly domestic waste and may include commercial and industrial waste.
- ~~59~~62. “Non-domestic ~~dischargersources~~” means ~~both an industrial source or a and~~ commercial sources.
- ~~60~~63. “National Pretreatment Program” or “NPP” means the federal program referred to by this name under the Clean Water Act that is meant to protect infrastructure and receiving waters to a fishable and swimmable standard. The NPP is designed to reduce conventional and toxic pollutant levels discharged by industries and other nondomestic wastewater sources into municipal sewer systems and into the environment. The National Pretreatment Program’s implementing regulations are found at Title 40 of the Code of Federal Regulations, Parts 122, 123, 124, and 403 and chapter I, subchapter N.
- ~~61~~64. “National Pretreatment Program AWPRA” or “NPP AWPRA” means an AWPRA subject to R18-9-C813(B).
- ~~62~~65. “Non-National Pretreatment Program AWPRA” or “Non-NPP AWPRA” means an AWPRA subject to R18-9-C813(C).
- ~~63~~66. “Off-specification water” or “off-spec water” means water that has a quality that does not meet standards such as drinking water MCLs or other AWP programmatic requirements such as standards associated with surrogates or indicators.
- ~~67~~. “On-site validation study” means a validation study conducted by the applicant that follows a departmentally approved validation protocol for the purposes of determining pathogen log reduction values for a treatment barrier.
- ~~64~~68. “Operational barrier” means a barrier in the form of measures, including operations and monitoring plans, failure and response plans, as well as operator training and certification.

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- ~~6569.~~ “Operational parameter” means a measurable property used to characterize or partially characterize the operation of a treatment process and must confirm the treatment barriers are intact to ensure the process is meeting the water quality and pathogen/chemical removal goals.
- ~~6670.~~ “Original drinking water” means drinking water that was being distributed prior to the introduction of advanced treated water ~~or finished water~~.
- ~~6771.~~ “Oxidized wastewater” means wastewater that is treated to a level beyond simple removal of floating and suspended solids and meets ~~the secondary treatment levels as described in R18-9-B204(B)(1).~~
- ~~6872.~~ “Ozone with biologically active filtration” or “Ozone/BAC” means an ozonation process immediately followed by biologically activated carbon.
- ~~6973.~~ “Pass-through” means the occurrence of a constituent of concern exiting ~~Water Reclamation Facilities~~ water reclamation facilities or ~~Advanced Water Treatment Facilities~~ advanced water treatment facilities in quantities or concentrations that have a significant potential to have serious adverse public health effects or to cause a violation of a treatment technique requirement, an action level, or an MCL in the advanced treated water ~~or finished water~~.
- ~~7074.~~ “Pathogen” means a microorganism such as bacteria, virus, or protozoa that can cause human illness.
- ~~7175.~~ “Pilot Study” or “Pilot train” or “Pilot” means a preliminary study and treatment train, of any scale representative to the full-scale facility, which is conducted to evaluate the feasibility, duration, cost, adverse events, and to improve upon the study design prior to performance of a full-scale project.
- ~~7276.~~ “Potentially impactful non-domestic discharger” means a non-domestic discharger that has been determined by the AWPRA to pose a potential to adversely impact treatment processes or the public health or which otherwise must be identified and tracked by the AWPRA pursuant to ~~R18-9-E824(B)(4)(D)(2)(a).~~
- ~~7377.~~ “Product water” means water exiting a specific treatment process or a combination of treatment processes.
- ~~7478.~~ “Public water system” has the same definition as the one incorporated by reference at A.A.C. R18-4-103 (40 CFR 141.2).
- ~~7579.~~ “Quantitative Polymerase Chain Reaction” or “qPCR” means a PCR-based technique that couples amplification of a target DNA sequence with quantification of the concentration of that DNA species in the reaction.
- ~~7680.~~ “Raw wastewater” means wastewater that is entering a ~~Water Reclamation Facility~~ water reclamation facility via a sewage collection system and which has not undergone any centralized treatment. For the purposes of pathogen log removal, raw wastewater means wastewater prior to any point in a wastewater treatment process that may be credited for disinfection.
- ~~77.~~ “~~Raw water augmentation~~” means ~~introducing advanced treated water into the raw water supply upstream of a drinking water treatment facility.~~

- ~~78~~81. “Real time monitoring” or “online monitoring” means treatment performance monitoring using instruments directly in the process flow or sample line that occurs continuously or semi-continuously in intervals of 15 minutes or less.
- ~~79.~~ “~~Recalcitrant Total Organic Carbon~~” or “~~rTOC~~” means the Total Organic Carbon (TOC) found in finished water, which ~~once used or consumed becomes wastewater. rTOC is unlike anthropogenic TOC present in wastewater because it may not be effectively eliminated by the Water Reclamation Facility, which leaves it as a constituent of the TOC in the treated wastewater.~~
- ~~80~~82. “Redundancy” means the use of multiple treatment barriers to attenuate the same type of constituent, so that if one barrier fails, performs inadequately, or is taken offline for maintenance, the overall system will still perform effectively, reducing risk.
- ~~81~~83. “Reference Dose” or “RfD” means an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.
- ~~82~~84. “Reference pathogens” means Enteric viruses (specifically norovirus), Giardia lamblia cysts, and Cryptosporidium oocysts.
- ~~83~~85. “Reliability” means the ability of a treatment process or treatment train to consistently achieve the desired degree of treatment, based on its inherent redundancy, robustness, and resilience. In this definition, resilience means the ability of a treatment train to adapt successfully and restore performance rapidly when failure occurs.
- ~~84.~~ “~~Resilience~~” means ~~the ability of a treatment train to adapt successfully and restore performance rapidly when failure occurs.~~
- ~~85~~86. “Robustness” means the ability of an AWP system to address a broad variety of constituents and changes in the concentrations of the constituents in the source water and resist a failure.
- ~~86~~87. “Safe Drinking Water Act” means the Safe Drinking Water Act (Pub. L. 93-523, as amended; 42 U.S.C. 300f et seq.).
- ~~87~~88. “SCADA” or “SCADA System” means Supervisory Control and Data Acquisition system.
- ~~88~~89. “Secondary treatment” means treated wastewater that meets the following treatment levels:
- Five-day biochemical oxygen demand (BOD5) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand (CBOD5) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
 - Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
 - pH maintained between 6.0 and 9.0 standard units; and
 - A removal efficiency of 85 percent for BOD5, CBOD5, and TSS.
- ~~89~~90. “Source water” means water that is characterized for chemical constituents and pathogens based on which treatment or source control is designed.

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9091. “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 an indicator compound or pathogen; that may be used to monitor the efficacy of constituent reduction by a treatment process; and/or that provides an indication of a treatment process failure.
9192. “Target chemical” means any unregulated chemical causing a potential human health concern that may be present in the treated wastewater.
9293. “Tier 1 chemicals” means contaminants listed, regulated as under the National Primary Drinking Water Maximum Contaminant Levels (MCLs) Regulations, under 40 CFR Part 141 of the Safe Drinking Water Act, as incorporated by reference in R18-4-102, ~~including MCLs and treatment techniques.~~
9394. “Tier 2 chemicals” means AWP-specific contaminants pursuant to R18-9-E826 that are not regulated in the Safe Drinking Water Act, but may be present in treated wastewater and may pose human health concerns.
9495. “Tier 3 chemicals” means Performance Based Indicators that are used to monitor the performance of AWP treatment trains.
9596. “Total Organic Carbon” or “TOC” means the amount of organic carbon in a sample.
9697. “Trace Organic Compounds” or “TOrcs” means a category of compounds such as pharmaceuticals, personal care products, and hormones.
9798. “Treated wastewater” means any water or wastewater source of predominantly municipal origin coming from a Water Reclamation Facility and going to an Advanced Water Treatment Facility that has undergone treated wastewater characterization for either enhanced wastewater treatment or secondary wastewater treatment. -For the purposes of the AWP program, treated wastewater originates from a ~~Water Reclamation Facility~~ water reclamation facility that has liquid stream treatment processes that, at a minimum, are designed and operated to produce oxidized wastewater that achieves a defined source water quality for the purpose of additional treatment by an ~~Advanced Water Treatment Facility~~ advanced water treatment facility.
98. ~~“Treated water augmentation” means finished drinking water from an AWWTF, permitted as a drinking water treatment facility, which is directly introduced into a distribution system for human consumption.~~
99. “Treatment barrier” means a barrier in constant operation, such as a physical barrier, that can be credited with treatment performance.
100. “Treatment interference” or “interference” means a discharge from a non-domestic source which, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the AWPRA’s treatment processes or operations and has significant potential for adverse public health consequences or significant potential to cause a violation of an action level, treatment technique or an MCL in advanced treated water ~~or finished water.~~

101. “Treatment mechanism” means a physical, chemical, or biological action within each treatment process that reduces the concentration of a pathogen or a chemical contaminant.
102. “Treatment process” means a sequence of physical, chemical, or biological procedures applied to municipal wastewater or treated wastewater to remove pathogens and/or chemical constituents.
103. “Treatment technique” means a required process intended to reduce the level of a contaminant in water and/or drinking water.
104. “Treatment train” means a grouping of physical, chemical, and biological treatment technologies or processes that conditions or treats water to achieve a specific water quality goal.
105. “Upset” means unintentional and temporary noncompliance with a performance metric resulting in an excursion or loss of performance in one or more of the unit processes.
106. “Water ~~Reclamation Facility~~ reclamation facility” or “Wastewater ~~Treatment Plant~~ treatment plant” means an arrangement of devices and structures for collecting, treating, neutralizing, stabilizing, or disposing of domestic wastewater, industrial wastes, and biosolids. For the purposes of the AWP program, a wastewater treatment plant does not include industrial wastewater treatment plants or complexes whose primary function is the treatment of industrial wastes.
107. “ 10^{-4} cancer risk” means the concentration of a chemical in drinking water which corresponds ~~corresponding~~ to an excess estimated lifetime cancer risk of 1 in 10,000.

**R18-9-A802. Program Review; Methodologies; Incorporation by Reference; ~~Quality Assurance/Quality Control~~
~~Methodologies~~**

A. No Change

1. No Change
2. No Change

B. ~~The following materials are incorporated by reference and applicable in this Article unless specifically stated otherwise. The materials include no future editions or amendments, and are on file with the Department and as indicated below:~~

- ~~1. Standard Methods for the Examination of Water and Wastewater, Section 5710-B, “Trihalomethane Formation Potential (THMFP)”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~
- ~~2. Standard Methods for the Examination of Water and Wastewater, Section 5710-C, “Simulated Distribution System Trihalomethanes (SDS-THM)”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~
- ~~3. Standard Methods for the Examination of Water and Wastewater, Part 1000, “Analytical and Data Quality Systems”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~

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- ~~4. Standard Methods for the Examination of Water and Wastewater, Section 7020, “Quality System”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~
- ~~5. Standard Methods for the Examination of Water and Wastewater, Section 8020, “Quality Assurance and Quality Control in Laboratory Toxicity Tests”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~
- ~~6. Standard Methods for the Examination of Water and Wastewater, Section 9020, “Quality Assurance/Quality Control”, 24th ed. 2023, available at <https://www.standardmethods.org>.~~
- ~~7. ASTM International, Designation D4194-23, “Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices”, February 16, 2023, available at <https://www.astm.org>.~~
- ~~8. Federal Register, 87 FR 68066, “Contaminant Candidate List 5 – Exhibit 1b – Unregulated DBPs in the DBP Group on CCL 5”, available at <https://www.federalregister.gov>.~~
- ~~9. 2018 Edition of the Drinking Water Standards and Health Advisories, U.S. EPA, available at <https://www.epa.gov>.~~
- ~~10. Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/TA, published January 2012, available at <https://www.ncpis.epa.gov>.~~
- ~~11. Method 1615: Measurement of Enterovirus and Norovirus Occurrence in Water by Culture and RT-qPCR, published 2014, available at <https://cfpub.epa.gov>.~~
- ~~12. 40 CFR 261.21, “Characteristic of ignitability”, published July 7, 2020, available at <https://www.ecfr.gov>.~~
- ~~13. “Considerations for Direct Potable Reuse Downstream of the Groundwater Recharge Advanced Water Treatment Facility”. Brian Peeson, Shane Trussell, Elise Chen, Anya Kaufmann, & Rhodes Trussell. (2020).~~

Available Testing Methods.

1. Any advanced water purification facility, owner, operator, or responsible agency conducting compliance monitoring, initial source water characterization, or other monitoring under this Article shall utilize an available testing method. For the purposes of this Article, “available testing method” means a drinking water or wastewater analytical test procedure or protocol authorized or published by:
 - a. The Arizona Department of Health Services (ADHS) in 9 A.A.C. 14, Article 6, Table 6.2.A, Table 6.2.B, and Table 6.2.E;
 - b. The United States Environmental Protection Agency (EPA) incorporated by reference in subsection (C)(4)(a)-(b);
 - c. The American Society for Testing and Materials (ASTM) International incorporated by reference in subsection (C)(3)(c)-(g); and/or
 - d. Standard Methods for the Examination of Water and Wastewater incorporated by reference in subsection (C)(1)(b)-(e).
 2. If a method exists in more than one source, the most current incorporated method shall be utilized.
- C. ~~Data collection, analysis, sampling, monitoring, reporting, and other related data quality assurance and quality control methodologies in this Article shall be conducted in accordance with the following applicable procedures in Standard Methods for the Examination of Water and Wastewater, 24th ed. 2023, available at [standardmethods.org](https://www.standardmethods.org).~~

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1. ~~Part 1000, “Analytical and Data Quality Systems”;~~
2. ~~Section 7020, “Quality Control for Wastewater Samples”;~~
3. ~~Section 8020, “Quality Assurance and Quality Control in Laboratory Toxicity Tests”;~~ and
4. ~~Section 9020, “Interlaboratory Quality Control Guidelines”.~~

The following materials are incorporated by reference and applicable in this Article unless specifically stated otherwise. This rule does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are on file with the Department at 1110 W. Washington Street, Phoenix, AZ 85007, and are available online at the indicated web addresses:

1. American Public Health Association, et al., *Standard Methods for the Examination of Water and Wastewater* (24th ed. 2023), available at <https://www.standardmethods.org>:
 - a. Part 1000, “Analytical and Data Quality Systems”
 - b. Part 3000, “Metals”
 - c. Part 4000, “Inorganic Nonmetallic Constituents”
 - d. Part 5000, “Aggregate Organic Constituents”
 - e. Part 6000, “Individual Organic Compounds”
 - f. Section 5710 B, “Trihalomethane Formation Potential (THMFP)”
 - g. Section 5710 C, “Simulated Distribution System Trihalomethanes (SDS-THM)”
 - h. Section 7020, “Quality System”
 - i. Section 8020, “Quality Assurance and Quality Control in Laboratory Toxicity Tests”, and
 - j. Section 9020, “Quality Assurance/Quality Control”
2. Arizona Department of Environmental Quality (ADEQ), available at <http://azdeq.gov/awp/tier2>:
 - a. *Oral Toxicity Value Tables: Oral Reference Doses and Oral Cancer Slope Factors Supporting Derivation of Proposed Health Advisories* (Aug. 24, 2026 ed.), and
 - b. *Other State’s Health Advisory List: Drinking Water Health-Based Values for Constituents Not Listed in the 2018 Edition of the EPA Drinking Water Standards and Health Advisories Tables* (Aug. 24, 2026 ed.).
3. ASTM International, available at <https://www.astm.org>:
 - a. ASTM C1244/C1244M-20(2025), “Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill” (Vol. 04.05).
 - b. ASTM D4194-23, “Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices” (Vol. 11.02).
 - c. ASTM D4327-17(2025), “Standard Test Method for Anions in Water by Chemically Suppressed Ion Chromatography” (Vol. 11.01).

- d. ASTM D5673-16(2024)e1, “Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry” (Vol. 11.02).
- e. ASTM D7979-20, “Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent, and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)” (Vol. 11.02).
- f. ASTM D8148-26, “Standard Test Method for Spectroscopic Determination of Turbidity in Water” (Vol. 05.04 / 05.05).
- g. ASTM D8406-22, “Standard Test Method for Total Organic Halides in Water” (Vol. 11.07), and
- h. ASTM F1417-25, “Standard Practice for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air” (Vol. 08.04).
- 4. Code of Federal Regulations (CFR), published by the Office of the Federal Register, National Archives and Records Administration, available at <https://www.ecfr.gov>:
 - a. 40 CFR Part 136, “Guidelines Establishing Test Procedures for the Analysis of Pollutants” (July 1, 2025).
 - b. 40 CFR Part 141, “National Primary Drinking Water Regulations” (July 1, 2025), and
 - c. 40 CFR 261.21, “Characteristic of ignitability” (July 7, 2020).
- 5. Federal Register, 87 FR 68066, “Contaminant Candidate List 5 - Exhibit 1b - Unregulated DBPs in the DBP Group on CCL 5”, available at <https://www.federalregister.gov>.
- 6. Pecson, Brian, et al. “Considerations for Direct Potable Reuse Downstream of the Groundwater Recharge Advanced Water Treatment Facility” (2020).
- 7. United States Environmental Protection Agency (U.S. EPA):
 - a. 2018 Edition of the Drinking Water Standards and Health Advisories, EPA 822-F-18-001 (March 2018), available at <https://www.epa.gov>.
 - b. Method 1615: Measurement of Enterovirus and Norovirus Occurrence in Water by Culture and RT-qPCR, published 2014, available at <https://cfpub.epa.gov>, and
 - c. Method 1623.1: Cryptosporidium and Giardia in Water by Filtration/IMS/FA, EPA 816-R-12-001 (January 2012), available at <https://www.nepis.epa.gov>.
- D. Data collection, analysis, sampling, monitoring, reporting, and other related data quality assurance and quality control methodologies in this Article shall be conducted in accordance with the following applicable procedures in Standard Methods for the Examination of Water and Wastewater, 24th edition, 2023, incorporated by reference in subsection (C)(1):
 - 1. Part 1000, “Analytical and Data Quality Systems”;
 - 2. Section 7020, “Quality Control for Wastewater Samples”;
 - 3. Section 8020, “Quality Assurance and Quality Control in Laboratory Toxicity Tests”; and
 - 4. Section 9020, “Interlaboratory Quality Control Guidelines”.

R18-9-A803. ~~Applicability Of The Safe Drinking Water Act~~ And Prohibitions.

A. This Article applies to any person who treats, processes, and provides advanced treated water for human consumption.

B. Safe Drinking Water Act Applicability.

~~A. For the purposes of the Safe Drinking Water Act, treated wastewater is presumptively considered surface water. Nothing in this section exempts a facility from applicable Safe Drinking Water Act requirements in Chapter 4 of this Title.~~

~~B1. Depending on the method of introduction of advanced treated water for human consumption, an AWP that treats treated wastewater to advanced treated water standards for raw water augmentation may, at the Director's discretion, be considered part of~~ may be a source to a public water system, or may be considered part of a public water system, for the purposes of compliance with the Safe Drinking Water Act and all applicable requirements of this Title.

2. For the purposes of the Safe Drinking Water Act, treated wastewater and advanced treated water are presumptively considered surface water, and treated surface water, respectively, depending on the planned introduction of the advanced treated water under the AWP project and the facility configurations. Nothing in this section exempts a facility from applicable Safe Drinking Water Act requirements in Chapter 4 of this Title.

~~C. An AWP that treats treated wastewater to finished standards for human consumption and distribution through pipes or other constructed conveyances is, or is part of, a public water system for the purposes of compliance with the Safe Drinking Water Act and all applicable requirements of this Title.~~

~~B3. If the AWP is considered a public water system under either subsections (B) or (C)~~ For all AWP:

1a. Permitting processes of this Article supersede the public water system permitting requirements in Chapter 5, Article 5, where they conflict, and

2b. Design requirements of this Article supersede the public water system design requirements in Chapter 5, Article 5 where they conflict.

C. Providing advanced treated water for human consumption by either a full-scale facility or a demonstration facility is prohibited except as permitted under an AWP permit pursuant to this Article. An AWPRA shall obtain explicit approval from the Department to provide advanced treated water for human consumption:

1. For an AWP permit, either:

a. Through issuance of an AWP permit, if full-scale verification was completed and approved as part of the application; or

b. After satisfaction of the post-permit issuance compliance schedule requirements pursuant to R18-9-C816(E).

2. For an AWP demonstration permit, either:

a. Through issuance of a demonstration permit, if no application requirements were deferred to a post-permit issuance compliance schedule; or

b. After satisfaction of the post-permit issuance compliance schedule requirements pursuant to R18-9-C817(C)(7).

PART B. GENERAL PROGRAM REQUIREMENTS

R18-9-B804. Advanced Water Purification Operator Certification

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A. No Change

1. No Change
2. No Change
3. No Change
4. No Change

5. “AWPRA facility” or “facility” means a drinking water treatment facility, AWTF, collection system, or wastewater treatment plant involved in the production of advanced treated water.
56. ~~“Chief operator-Direct responsible charge” means an AWP operator who has overall responsibility for the day-to-day, hands-on operation of an AWTF.~~
6. ~~“Direct responsible charge proxy” or “proxy” means an AWP shift operator who is designated by, and acts on behalf of, the operator in direct responsible charge when the operator in direct responsible charge is not onsite.~~
7. ~~“AWPRA facility” or “facility” means a drinking water treatment facility, AWTF, collection system, or wastewater treatment plant involved in the production of advanced treated water.~~
87. “Onsite” means physically present at any AWPRA facility where a critical control point is operated and any AWPRA facility assigned treatment credits.
98. “Professional development hour” means one hour of participation in an organized educational activity related to engineering, biological or chemical sciences, a closely related technical or scientific discipline, or operations management.
9. “Provisional Operator” means a certified, prospective AWP operator serving as an operator-in-training who satisfies all experience and educational requirements except for the requisite advanced water treatment qualifying experience. Provisional operators are not considered AWP operators and therefore do not hold the status of shift operator or chief operator.
1010. “Qualifying experience” means experience, skill, or knowledge obtained through employment that is applicable to the technical or operational control of all or part of a facility (A.A.C. R18-5-101).
1111. “Shift operator” means an AWP operator who is in direct charge of the operation of a treatment facility for a specified period of the day and must be present at the site during the duration of the shift.
12. ~~“Shift” means an eight-hour period of time in one day.~~

B. No Change

C. Certification Committee.

1. ~~Upon the effective date of this rule, the Director shall establish a certification committee which may, at the Department’s request, make recommendations and provide the Department with technical advice and assistance related to the AWP operator certification.~~
2. ~~The AWP operator certification committee shall consist of eleven members, appointed by the Director as follows:~~

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- a. ~~An employee of the Department who shall serve as the executive secretary and who is responsible for maintaining records of all meetings;~~
 - b. ~~A currently employed operator with both Grade 4 water treatment certification and AWP operator certification;~~
 - e. ~~A currently employed operator with both Grade 3 water treatment certification and AWP operator certification;~~
 - d. ~~A currently employed operator with both Grade 4 wastewater treatment certification and AWP operator certification;~~
 - e. ~~A currently employed operator with both Grade 3 wastewater treatment certification and AWP operator certification;~~
 - f. ~~A currently employed wastewater collection system operator with Grade 4 certification;~~
 - g. ~~A currently employed water distribution system operator with Grade 4 certification;~~
 - h. ~~A faculty member teaching environmental engineering in the water or wastewater fields at an Arizona university or community college;~~
 - i. ~~A professional engineer, registered and residing in Arizona, engaged in consulting in the field of environmental engineering;~~
 - j. ~~An elected or appointed municipal official;~~
 - k. ~~A representative of a wastewater treatment facility with a design flow of greater than 5 million gallons per day (MGD) and which participates in the National Pretreatment Program, and~~
 - l. ~~A representative of a wastewater treatment facility with a design flow of less than 5 MGD, which is not a participant in the National Pretreatment Program.~~
3. ~~The certification committee shall meet at least twice a year. At the first meeting of each calendar year, the certification committee shall select, from among its members, a chairperson and other officers as necessary.~~
4. ~~A certification committee member shall serve a term of three years.~~
5. ~~A certification committee member may be reappointed, but a member shall not serve more than three consecutive terms.~~
6. ~~A meeting quorum consists of the chairperson or the chairperson's designated representative, the executive secretary or the executive secretary's designated representative, and three other members of the committee.~~
7. ~~In the event of a vacancy caused by death, resignation, or removal for cause, the Director shall appoint a successor for the unexpired term.~~
1. The Certification Committee established under R18-5-103 of this Title is designated to make recommendations and provide the Department with technical advice and assistance related to the AWP operator certification in addition to the stated purpose in R18-5-103(A).
2. Beginning two years from the effective date of this rule, the committee member described in R18-5-103(B)(12) shall have AWP operator certification. Between the effective date of this rule and that time, that committee member may be an AWP provisional operator pursuant to subsection (F) of this section.

D. General Requirements.

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1. An AWPRA shall ensure all of the following:
 - a. All facilities receiving treatment credit pursuant to R18-9-E828 are operated by AWP operators, except for:
 - i. Pilot Facilities pursuant to R18-9-C815 (including Hybrid Pilot and Full-Scale Verification Facilities), and
 - ii. Demonstration Facilities pursuant to R18-9-C817, and
 - iii. Full-Scale Verification Facilities pursuant to R18-9-F835, and
 - b. All facilities receiving treatment credit pursuant to R18-9-E828 have a ~~full-time operator in direct responsible charge onsite for at least two full shifts per day, chief operator onsite at all times during operation, unless a request for alternative operator oversight has been approved by the Department pursuant to subsection (D)(2) below.~~
 - c. ~~All facilities receiving treatment credit pursuant to R18-9-E828 have an operator in direct responsible charge, or their proxy, onsite at all times during operation,~~
 - d. ~~When any facilities receiving treatment credit pursuant to R18-9-E828 is operated by a direct responsible charge proxy, an operator in direct responsible charge must be reasonably available to provide immediate direction telephonically, if necessary,~~
 - ec. An AWP operator makes all decisions about operational process control or system integrity regarding water quality or water quantity that affects public health,
 - fd. An AWPRA administrator who is not an AWP operator may make a planning decision regarding water quality or water quantity if the decision is not a direct operational process control or system integrity decision that affects public health,
 - ge. All critical control points at any facility receiving treatment credit pursuant to R18-9-E828 are operated by an AWP operator, and
 - hf. The names of all current AWP operators are reported to the Department as a component of the Operations Plan submitted pursuant to R18-9-F836.
2. During the application period, or at any point thereafter, an AWPRA may submit a request ~~to waive for alternative operator oversight to~~ the requirement in subsection (1)(b) ~~of this section if an operations plan, or amended operations plan, submitted to ADEQ pursuant to R18-9-F836 demonstrates that alternative oversight by an operator in direct responsible charge nevertheless achieves an equivalent degree of operational oversight and treatment reliability. The request shall be submitted in conjunction with an operations plan, or an amended operations plan, pursuant to R18-9-F836, that demonstrates the requested alternative achieves a reasonable degree of operational oversight for the AWTF.~~
3. ~~If ADEQ grants the waiver request in subsection (D)(2) above, the operator in direct responsible charge is not required to be onsite for at least two full shifts per day, but shall be able to monitor operations over the facility onsite within the period specified in the operations plan.~~
43. If the owner of a facility replaces an AWP chief operator ~~operator in direct responsible charge~~ with another AWP operator, the facility owner shall notify the Department in writing within 10 days of the replacement.

54. An AWP operator shall notify the Department in writing within 10 days of the date the AWP operator either ceases to operate a facility or commences operation of another facility.
65. An AWP operator shall operate each facility in compliance with applicable state and federal law.

E. AWP Operator Certification.

1. The Department shall issue an AWP operator certificate to an applicant if the applicant:
 - a. No Change
 - b. Passes a written AWP validated ~~advanced water treatment~~ examination, and
 - c. No Change
2. To apply for AWP operator certification, an applicant shall submit to the Department the following information, as applicable, on a form approved by the Director:
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. Proof of either:
 - i. Valid AWP provisional operator certification pursuant to subsection (F); or
 - ii. ~~successful completion of the advanced water treatment~~ Successful passage of the AWP validated examination and other applicable certificates,
 - f. Documentation of the applicant's experience required under this section, and
 - g. The applicable fee under R18-14-301(D).

F. AWP Provisional Operator Certification.

1. A prospective AWP operator certification applicant that lacks the requisite advanced water treatment qualifying experience pursuant to subsection (L)(4) may pursue provisional certification by applying to sit for the AWP validated examination pursuant to subsection (G).
2. Upon successful passage of the AWP validated examination, a person shall submit to the Department the applicable fee under R18-14-301(D) for an AWP provisional operator certification.
3. Provisional operator certifications are only valid for a three-year period.
4. AWP provisional operators are not AWP operators, but may train at an AWTF as a subordinate to an AWP operator.

FG. AWP Validated Examination.

1. The Department shall provide examinations for certification of AWP operators. The Department may contract with third party examiners for administration of examinations. The Department shall ensure that a list of approved examiners is available upon request.

2. A person applying to sit for the AWP validated examination shall submit the applicable fee in R18-14-301(D).
3. An applicant shall meet the following requirements for admission to an AWP validated~~AWP operator certification~~ examination:
 - a. A Grade 3 drinking water operator shall have at least two years' experience operating a Grade 3 drinking water treatment facility.
 - b. A Grade 4 drinking water operator shall have at least one year of experience operating a Grade 4 drinking water treatment facility.
 - c. A Grade 3 wastewater operator shall have at least two years' experience operating a Grade 3 wastewater treatment facility.
 - d. A Grade 4 wastewater operator shall have at least two years' experience operating a Grade 3 or Grade 4 wastewater treatment facility.
24. The Department shall validate all examinations before administration. Each examination shall include topics such as advanced treatment technologies, system maintenance, regulatory protocols, safety, mathematics, and general system management.
35. The examiner shall grade the examination and make the results available to the applicant and the Department within seven days of the date of the examination.
46. An eligible examinee applicant shall not be admitted to an examination without a valid picture I.D.
57. An individual must achieve a score of at least seventy percent on the examination in order to attain a passing grade.
68. For applicants with a Grade 3 or Grade 4 wastewater treatment operator certification, the examination shall include an additional component which tests knowledge equivalent to the Grade 3 drinking water treatment operator examination.

GH. AWP Operator Certificate Renewal.

1. If the Department renews an AWP operator certificate, ~~the certificate~~ it is renewed for a three-year period, unless the AWP operator requests a shorter renewal term in writing.
2. An AWP operator may renew their AWP operator certificate without retaking the AWP validated examination exam in accordance with the following:
 - a. Prior to the end of their AWP operator certificate period by submitting a renewal form; or
 - b. Following the expiration of the certification period, if the AWP operator submits a completed renewal form to the Department within 90 days of the expiration date.
3. To renew an AWP operator certificate, an AWP operator shall complete and submit to the Department an AWP operator certificate renewal, on a form approved by the Director, along with the applicable fee in R18-14-301(D).
4. No Change
5. No Change

6. As an alternative to the requirements of subsection (H)(2), an AWP operator may renew ~~an AWP operator~~ certificate by taking and passing an AWP validated operator examination.

HI. AWP Operator Certificate Expiration.

1. No Change
2. No Change
3. A person with an expired AWP operator certificate shall re-apply in accordance with subsections (G) and (H) in order to be certified as an AWP operator.
4. An AWP operator certificate is considered expired if ~~the~~ any supporting drinking water or wastewater certificate has been denied, expired, suspended, or revoked.

IJ. AWP Operator Certificate Denial, Suspension, Probation, and Revocation.

1. No Change
2. The Department shall deny ~~an AWP operator~~ certificate if the application is deficient, the applicant fails to obtain a passing score on the AWP validated examination, or upon any other determination that the applicant has not met the requirements of this section.
3. The Department may revoke or suspend an AWP operator certificate, or place an AWP operator on probation, if the Department determines that the AWP operator:
 - a. No Change
 - b. No Change
 - c. No Change
 - d. Obtains, or attempts to obtain, an AWP operator certificate by fraud, deceit, or misrepresentation;
 - e. No Change
 - f. No Change
 - g. No Change
 - h. No Change
 - i. No Change
4. The action the Department takes under subsection (J)(3) may be made at the Department's discretion upon ~~an~~ review examination of the individual facts and circumstances, the number of findings the Department makes under (J)(3), and upon consideration of other factors, such as but not limited to, additional aggravating circumstances not considered under (J)(3).
5. No Change

JK. Reciprocity. The Department shall issue an AWP operator certificate to an applicant who holds a valid certificate from another jurisdiction, if the applicant:

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1. Passes a written, ~~AWP validated~~ ~~validated AWP operator~~ examination in Arizona or in another jurisdiction that administers an ~~AWP~~ examination that is substantially equivalent to the examination in Arizona and validated by the Department, ~~and~~
2. Submits written evidence of the experience required under subsection (L), and
3. Submits the applicable fee in R18-14-301(D).

~~K.L.~~ Experience.

1. The Department shall consider the following criteria to determine whether an applicant has the qualifying experience required for AWP operator certification:
 - a. The type of operator certification held by the applicant, ~~and~~
 - b. Years of qualifying experience as a certified operator for a specific grade of facility, and
 - c. Advanced water treatment qualifying experience.
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
3. No Change
4. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
5. ~~An applicant that meets the requirements of this section and has passed the advanced water treatment examination shall be certified in accordance with the following:~~
 - a. ~~An applicant with Grade 3 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.~~
 - b. ~~An applicant with Grade 4 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP operator in direct responsible charge.~~
 - c. ~~An applicant with Grade 3 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.~~
 - d. ~~An applicant with Grade 4 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.~~
6. ~~Advanced water treatment qualifying experience may be obtained through any of the following:~~

- a. ~~Operating a pilot facility;~~
 - b. ~~Operating an AWP demonstration facility that is not distributing finished water for human consumption;~~
 - c. ~~Experiential reciprocity pursuant to subsection (J) of this section;~~
 - d. ~~An apprenticeship under an AWP operator on-site at an AWP facility including a pilot facility, demonstration facility, or AWTF; or~~
 - e. ~~Other experience approved by the Department.~~
5. An applicant shall provide evidence of at least one year of advanced water treatment qualifying experience, which may be obtained through any of the following:
- a. Operating a pilot facility;
 - b. Operating an AWP demonstration facility;
 - c. Experiential reciprocity pursuant to subsection (K) of this section;
 - d. For provisional operators, an apprenticeship under an AWP operator on-site at an AWP facility; or
 - e. Other experience approved by the Department.
6. An applicant that meets the requirements of this section and has passed the AWP validated examination shall be certified in accordance with the following:
- a. An applicant with Grade 3 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.
 - b. An applicant with Grade 4 drinking water treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP chief operator.
 - c. An applicant with Grade 3 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.
 - d. An applicant with Grade 4 wastewater treatment certification with at least one year of advanced water treatment qualifying experience shall receive certification as AWP shift operator.

7. No Change

EM. Class and Grade Requirements.

- 1. No Change
 - a. No Change
 - b. The Department shall grade water distribution system AWPR ~~Partners partners~~ pursuant to A.A.C. R18-5-115(B).
- 2. No Change
 - a. No Change
 - b. No Change
 - c. No Change

N. Transition:

1. ~~Beginning two years from the effective date of the AWP programmatic rules in A.A.C. Title 18, Chapter 9, Article 8, all facilities receiving treatment credit pursuant to R18-9-E828 shall be operated by AWP operators certified in accordance with this section.~~
2. ~~During the two-year transition period, all AWTs shall be operated by a Grade 4 certified drinking water operator who has completed appropriate training, approved by the Department.~~

R18-9-B805. Advanced Water Purification Responsible Agency Formation; Joint Plan

A. No Change

1. No Change
2. No Change

B. Joint Plan. An AWPR shall develop a Joint Plan describing all AWPR Partner ~~partner~~ coordination procedures, including but not limited to, the following:

1. AWPR Partner Details.
 - a. Identification of each AWPR Partner ~~partner~~ associated with the AWP project throughout the project's expected operational life,
 - b. A description of the roles and responsibilities of each AWPR Partner ~~partner~~, including designation of a lead AWPR Partner ~~partner~~ responsible for fulfilling the requirements under the communication plan established in accordance with subsection (B)(4), and
 - c. The legal authority of each AWPR Partner ~~partner~~ to fulfill its roles and responsibilities.
2. No Change
3. No Change
4. A communication plan ensuring the timely dissemination of information regarding both treated wastewater and advanced treated water ~~or finished water~~ quality status and monitoring among all AWPR Partners ~~partner~~,
5. Procedures to provide access to the AWPR and all AWPR Partner ~~partner~~ facilities, operations, and records for inspection at any time by the Department,
6. No Change
7. No Change
8. Procedures to notify AWPR Partners ~~partner~~ and the Department of treatment failure incidents and all corresponding corrective actions taken,
9. A plan outlining all enforcement and corrective actions taken should an AWPR Partner ~~partner~~ fail to meet the requirements of this Article or violate the Joint Plan, and

10. Procedures to address changes to the AWPRA ~~Partners partners~~, including the addition of new ~~AWPRA Partners partner~~ and the removal of existing ~~AWPRA Partners partner~~, in accordance with the requirements of the AWP program.

C. The AWPRA and all AWPRA ~~Partners partners~~ shall sign the Joint Plan.

D. No Change

R18-9-B806. General Requirements

A. ~~Delivery of advanced treated water or distribution of finished water is prohibited unless delivery or distribution approval is explicitly given to the AWPRA, either:~~

- ~~1. Through issuance of the AWP permit, if full scale certification was completed and approved as part of the application; or~~
- ~~2. After satisfaction of the compliance schedule requirements pursuant to R18-9-C816(E).~~

AWP permittees shall at all times properly operate the AWP project consistent with the requirements of this Article.

B. No Change

C. Treated wastewater used to supply an AWP project shall be predominantly municipal wastewater in origin.

D. No Change

R18-9-B809. Construction and Compliance with Plans

A. An AWPRA shall conform to all proposed plans and specifications when constructing any part of their pilot facility such that the facility accurately reflects the proposal as recorded.

1. Prior to issuance of an AWP permit or demonstration permit and when the pilot facility is the same as the proposed full-scale facility, any change in a proposed design that will affect advanced treated water ~~or finished water~~ quality, capacity, flow, or performance, shall be documented by the AWPRA applicant and submitted to the Department for review and approval in the form of revised plans and specifications, record drawings and a written statement regarding the reasons for the change.

2. No Change

B. An AWPRA shall conform to all approved plans and specifications when constructing any part of their full-scale facility.

1. Following issuance of an AWP permit, any change in an approved design that will affect advanced treated water ~~or finished water~~ quality, capacity, flow, or performance, shall be submitted by the AWPRA to the Department for review and approval through a permit amendment.

2. No Change

a. No Change

b. No Change

c. No Change

3. No Change

R18-9-B811. Outreach; Public Communications Plan

A. No Change

B. Public Communications Plan. The Plan shall include, but is not limited to, the following:

1. Consumer Notification.
 - a. An AWPRA applicant shall notify all drinking water consumers of its intention to apply for an AWP permit for the introduction of advanced treated water ~~treatment and delivery of advanced treated water or distribution of finished water~~ as a drinking water source.
 - b. No Change
 - c. Throughout the planning phase, the AWPRA applicant shall:
 - i. Communicate to the public through the use of a local, publicly-accessible repository in which the AWPRA posts information about the AWP project, contains a forum for public question and comment, and a place for responses. Such a repository shall be active at the time the AWPRA applicant submits an AWP project permit application to the Department, and shall be maintained for the lifetime of the AWP project,
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - d. During the application phase, the AWPRA applicant shall schedule and hold at least one public meeting no less than six months prior to ~~distributing finished~~ providing advanced treated water from the AWP project for human consumption.
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change
 - g. No Change
3. No Change
 - a. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change

- v. No Change
- vi. No Change
- c. No Change
- 4. No Change
 - a. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - vi. No Change
 - c. No Change
 - d. After being issued the AWP permit, and at least 30 days prior to ~~distributing~~ providing advanced treated water for human consumption or delivering finished water, an AWPRAs shall submit a certified final Plan to the Department pursuant to the compliance schedule set forth in their AWP permit.

PART C. PRE-PERMIT AND PERMIT REQUIREMENTS

R18-9-C812. Pre-Application Conference; Project Advisory Committee

- A. No Change
- B. The Department may assemble a project advisory committee for the purpose of providing project-specific technical consultation to the Department ~~throughout the application process~~.
 - 1. No Change
 - 2. No Change
 - 3. No Change
 - 4. Reviews by the project advisory committee of an AWPRAs application shall be conducted within the applicable Licensing Time Frames in Chapter 1, Article 5 of this Title.

R18-9-C813. Applicant Pathways Depending on National Pretreatment Program Applicability

- A. No Change
- B. No Change
 - 1. No Change
 - 2. No Change
- C. No Change

1. No Change
2. No Change

D. An AWPRA applicant that builds a pilot facility to full-scale and develops a Hybrid Pilot and Full-Scale Verification Plan, shall follow the submission requirements pursuant to R18-9-C815(A)(1)(c) and R18-9-F835(A)(1)(c) in lieu of the submission requirements in subsections ~~B and C~~ (B) and (C) of this section.

R18-9-C814. Initial Source Water Characterization

A. No Change

B. No Change

1. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change

2. No Change

C. Monitoring. An AWPRA applicant shall conduct initial source water monitoring at all water reclamation facilities delivering treated wastewater as a source to an AWTF as applicable under R18-9-A802(C).

1. Monitoring shall be ~~conducted~~ located ~~at a location~~ before any AWP-credited pathogen treatment process, if applicable that will be used for a treatment credit in the AWP project and before. Otherwise, monitoring shall be located at the point of diversion to the AWTF, or at another Departmentally-approved location.

2. Chemical Monitoring.

- a. No Change
- b. No Change
- c. The AWPRA applicant shall sample for the following chemicals, ~~excluding those identified on the projected chemical treatment list developed in R18-9-E826:~~
 - i. Tier 1 chemicals pursuant to R18-9-E825, and
 - ii. Tier 2 chemicals pursuant to R18-9-E826(D)(C)(4) and (C)(6), except for chemicals identified on the Projected Tier 2 Chemical Treatment List pursuant to R18-9-E826(E) and chemicals characterized using actual daily concentration monitoring pursuant to R18-9-E826(C)(5), and
 - iii. ~~Any projected Tier 3 chemicals.~~ Pass-Through or Interference List chemicals pursuant to R18-9-E826(B)(2), and
 - iv. Any projected Tier 3 chemical pursuant to R18-9-E827.

3. No Change

- a. No Change

b. No Change

c. No Change

D. No Change

1. No Change

2. No Change

E. Report. An Initial Source Water Characterization Report shall be finalized within three years of the commencement of either initial source water monitoring pursuant to subsection (C) above, or actual daily concentration monitoring pursuant to R18-9-E826(C)(5)(a), or at the Director's discretion. The Initial Source Water Characterization Report shall be prepared pursuant to R18-9-A802(C) and shall include, but is not limited to, the following:

1. No Change

2. No Change

3. No Change

4. No Change

5. No Change

6. No Change

7. No Change

8. No Change

9. No Change

10. No Change

~~11. A copy of the Initial Source Water Characterization Plan developed in subsection (B).~~

11. The Actual Daily Concentration Monitoring Report pursuant to R18-9-E826(C)(5)(c), as applicable, and

12. A copy of the Initial Source Water Characterization Plan developed in subsection (B).

F. No Change

1. No Change

2. No Change

G. No Change

R18-9-C815. Pilot Study

A. No Change

1. No Change

a. No Change

b. No Change

c. No Change

2. No Change

B. Pilot Study Plan. A Pilot Study Plan shall be followed when constructing the pilot treatment train and piloting in accordance with this section.

1. No Change

2. No Change

3. The Plan shall include, but is not limited to, the following:

a. No Change

b. No Change

c. No Change

d. No Change

e. No Change

f. No Change

g. A monitoring plan which shall include, but is not limited to, the following:

i. The proposed monitoring, instrumentation, and any additional requirements pursuant to R18-9-A802(C); and

ii. The proposed chemical critical control points designated pursuant to R18-9-E827(D),

iii. The proposed pathogen critical control points designated pursuant to R18-9-E828(D), and

iv. ~~An advanced treated water~~ A sampling plan for the pilot treatment train influent and effluent, including Tier 1 chemical removal pursuant to R18-9-E825, Tier 2 chemical removal to the proposed action levels pursuant to R18-9-E826(C)(7), and the pathogen log reduction values established in R18-9-E828, and

h. The proposed Tier 3 chemical list and associated critical control points prepared pursuant to R18-9-E827(D),

i. The Projected Tier 2 Chemical Treatment List prepared pursuant to R18-9-E826(FD), and

j. A TOC Characterization Plan of all original drinking water sources, pursuant to the Trace Organics Removal Procedure under R18-9-F834(C)(1), if the AWPRA selects the Site-Specific TOC Management Approach; and

k. The proposed Tier 2 action and alert levels pursuant to R18-9-E826(C)(7).

4. No Change

a. No Change

b. No Change

5. The pilot treatment train shall be ~~selected from, and~~ optimized in accordance with; ~~the projected chemical treatment list developed pursuant to R18-9-E826(F) and pathogen log reduction values established pursuant to R18-9-E828.~~

a. Tier 1 chemicals as prescribed in R18-9-E825,

b. Tier 2 chemicals identified in R18-9-E826.

c. Projected Tier 2 Chemical Treatment List developed pursuant to R18-9-E826(D).

d. Pass-Through or Interference Chemical List generated in R18-9-E826(B)(2), and

e. Pathogen log reduction values established pursuant to R18-9-E828.

6. No Change

C. No Change

1. No Change

2. No Change

D. No Change:

1. No Change

2. No Change

E. No Change

F. No Change

1. No Change

2. No Change

R18-9-C816. Permit Application

A. An AWPRA applicant for an AWP permit shall provide the Department with the following information on an application form prescribed by the Director:

1. Application: Administrative Requirements.

a. The names and mailing addresses of all AWPRA ~~p~~Partners,

b. The names and mailing addresses of the representative of the AWPRA and owners and operators of all AWPRA ~~p~~Partners facilities,

c. The legal description, including latitude and longitude, of the location of all AWPRA ~~p~~Partners facilities,

d. The expected operational life of the AWPRA ~~p~~Partners facilities,

e. The permit number for any other federal or state environmental permit issued to any AWPRA ~~p~~Partners for that facility or site,

f. No Change

g. No Change

h. No Change

i. No Change

j. No Change

2. Application: Technical Requirements.

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- a. Detailed completed or prospective construction plans of the site, depending on whether the facility is built to full-scale at the time of permit application, presented in legible form and of sufficient scale and detail to establish construction requirements and to facilitate effective review,
- b. Record drawings pursuant to R18-9-B810, if applicable.
- c. Complete specifications to supplement the completed or prospective construction plans in subsection (A)(2)(a), including ~~vendor~~ data demonstrating validation information,
- d. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
- e. A Full-Scale Verification;
 - i. Plan, including data demonstrating scaling feasibility, prepared pursuant to R18-9-F835, and
 - ii. Report prepared pursuant to R18-9-F835, if applicable under R18-9-F835(A)(1),
- f. A draft Operations Plan prepared pursuant to R18-9-F836,
- g. The Pilot Study Plan and Report prepared pursuant to R18-9-C815, if applicable under R18-9-C815(A)(1),
- ~~h. The Full-Scale Verification Report prepared pursuant to R18-9-F835, if applicable under R18-9-C835(A)(1),~~
- ih. A list of construction material used pursuant to R18-9-B806(B),
- ji. A demonstration of technical, managerial, and financial capacity pursuant to R18-9-F833,
- kj. An initial Enhanced Source Control Plan pursuant to ~~the program developed in~~ R18-9-E824,
- lk. The Initial Source Water Characterization Plan and Initial Source Water Characterization Report prepared pursuant to R18-9-C814,
- ml. A demonstration of compliance with all minimum design requirements pursuant to R18-9-F832,
- nm. The proposed pathogen and chemical action and alert levels for ongoing monitoring ~~pursuant to R18-9-A802(C)~~,
- on. The draft Public Communications Plan pursuant to R18-9-B811,
- po. A Chemical Inventory List, Pass-Through or Interference List, and a Tier 2 analysis pursuant to R18-9-E826,
- qp. A Tier 3 Chemical list, associated critical control points, and explanation pursuant to R18-9-E827,
- rq. Evidence of an APP authorizing any discharge from an AWTF that occurred, occurs, or will occur during piloting, full-scale verification, operation, or otherwise,
- sr. Demonstration that the AWPPRA meets applicable A.A.C. Title 18, Chapter 4 and Chapter 5 requirements, and
- ts. Any other relevant information required by the Department to determine whether to issue a permit.

B. No Change

C. No Change

1. No Change
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
- D. No Change
- E. Post-Permit Issuance Compliance Schedule.
 1. The technical components listed in subsection (E)(2) below are not required as part of the application in subsections (A) and (B) but are required prior to delivery of advanced treated water ~~or distribution of finished water~~.
 2. The following technical components shall be submitted in the time and manner set forth in a compliance schedule which shall be established by the Department under the AWP permit:
 - a. The final design documents including as-built construction and configuration reports of all engineered elements of the facility prepared pursuant to R18-9-B810 and any ~~document~~ documented changes from what was proposed in the pre-construction application requirements.
 - b. An Operations Plan prepared pursuant to R18-9-F836, including, but not limited to, a list of operators who are certified by the Department appropriately for all facilities within an AWP project, ~~including any finished water distribution systems~~.
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change
 - g. No Change
 - h. No Change
 - i. No Change
 3. No Change
- F. If a compliance schedule is included as part of an AWP permit, ~~delivery providing~~ advanced treated water ~~or distribution of finished water~~ for human consumption by either a full-scale facility or a demonstration facility is prohibited until all ~~delivery or distribution~~ critical post-permit compliance schedule items pursuant to subsection (E) are met and any associated permit amendments are in effect.
- G. No Change
 1. No Change
 2. No Change

3. No Change
4. No Change

R18-9-C817. Demonstration Permit.

- A. An AWPRA ~~may~~ shall apply for an AWP demonstration permit ~~for the purpose of showcasing the to operate an AWTF that offers advanced treated water for public outreach, finished water tasting, and other related non-distribution purposes education, water tasting, or other related purposes resulting in human consumption.~~
- B. ~~Introduction of advanced treated water into a drinking water distribution system for human consumption is prohibited under an AWP demonstration permit.~~Prohibitions.
 1. Connection of a demonstration AWTF to a drinking water distribution system is prohibited under an AWP demonstration permit, and
 2. Bench scale demonstration AWTFs are prohibited unless adequate pathogen and chemical critical control measures are included and approved by the Department.
- C. Demonstration Permit Application.
 1. An AWPRA applying for an AWP demonstration permit shall comply with all requirements of this Article, ~~and all application requirements pursuant to R18-9-C816, excluding the requirement to demonstrate full-scale verification, except as specified in this subsection.~~
 - a. ~~The piloting requirements in R18-9-C815 may be abbreviated at the Director's discretion, but may not be of a period of less than 6 months.~~
 - b. ~~If an applicant reports significant failures at a critical control point during abbreviated piloting, the Director may require other measures.~~
 2. Upon request of the AWPRA applicant, the Department shall schedule and hold pre-application conference(s) with the AWPRA applicant to discuss the application requirements of this section. ~~The AWPRA applicant applying for an AWP demonstration permit shall submit a preliminary application containing the information required in subsection (C)(1) to the Department on an application form prescribed by the Director.~~
 3. ~~The Department shall, based on the preliminary application and in consultation with the AWPRA applicant, provide the AWPRA applicant notice of any additional information that is necessary to complete the application.~~General Demonstration Permit. An AWPRA applicant shall submit all AWP permit application components under R18-9-C816, unless specifically excluded or included in accordance with the following:
 - a. Application Exclusions.
 - i. A Full-Scale Verification Plan and Report pursuant to R18-9-F835, and
 - ii. A Public Communications Plan pursuant to R18-9-B811, and

- iii. A Vulnerability Assessment pursuant to R18-9-F837, and
- iv. Any other application requirement, or component of an application requirement, at the Director's discretion, unless specifically included in subsection (C)(3)(b), below.
- b. Application Inclusions.
 - i. A demonstration of compliance with the pathogen control requirements pursuant to R18-9-E828.
 - ii. Proposed pathogen and Tier 1 chemical action levels for ongoing monitoring, as applicable pursuant to subsection (D), below, and
 - iii. The establishment of critical control points, as applicable pursuant to subsection (D), below.
- 4. An AWP operator shall operate the demonstration facility if the facility is utilized for the purpose of showcasing the AWTF for public outreach, finished water tasting, and other related non-distribution purposes. ~~Limited Consumption Demonstration~~ Permit. An AWPRA applicant shall submit all AWP permit application components under R18-9-C816, unless specifically excluded or included in accordance with subsections (b) and (c), below.
 - a. Prohibitions. Water produced by a facility operating under Limited Receptor Demonstration permit coverage shall not:
 - i. Be served to people who weigh less than 10 kilograms.
 - ii. Be served to people in quantities of more than 1 Liter per day
 - iii. Be served to people more than 10 days in a row.
 - b. Application Exclusions.
 - i. A Full-Scale Verification Plan and Report pursuant to R18-9-F835, and
 - ii. A Public Communications Plan pursuant to R18-9-B811, and
 - iii. A Vulnerability Assessment pursuant to R18-9-F837, and
 - iv. An Enhanced Source Control Program pursuant to R18-9-C824, except for the identification of Potentially Impactful Non-Domestic Dischargers in R18-9-C824(D)(2)(a) for the purposes of the Tier 2 Chemical Inventory in R18-9-C826(B), and
 - v. Any other application requirement, or component of an application requirement, at the Director's discretion, unless specifically included in subsection (C)(4)(c), below.
 - c. Application Inclusions.
 - i. A demonstration of compliance with the pathogen control requirements pursuant to R18-9-E828.
 - ii. Proposed pathogen and Tier 1 chemical action levels for ongoing monitoring, as applicable pursuant to subsection (D), below, and
 - iii. The establishment of critical control points, as applicable pursuant to subsection (D), below.
 - d. Initial Source Water Characterization. The Initial Source Water Characterization requirements and timeframe in R18-9-C814 may be abbreviated at the Director's discretion, but may not be of a duration less than 3 months.

5. The Department may include additional application requirements or substitute alternative application requirements on a reasonable, case-by-case basis.
 6. All design plans, specifications, and design reports submitted under this section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall make the following demonstration to the Department for each person principally responsible for designing the facility:
 - a. Pertinent licenses or certifications held by the person.
 - b. Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility.
 - c. Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities, and
 - d. A verification letter from an independent party certifying the performance of a manufacturer's equipment or a product that the professional engineer is relying upon for treatment credits, along with the information required under subsections (C)(6)(a), (b) and (c) of this section, for the independent party certifying the product.
 7. A demonstration permit application requirement may be deferred to a post-permit issuance compliance schedule at the Director's discretion. Satisfaction of those items is required prior to operation of the demonstration facility pursuant to subsection (A), above.
- D. ~~All design plans, specifications, and design reports submitted under this section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall make the following demonstration to the Department for each person principally responsible for designing the facility:~~ The Department may include any requirement when issuing a demonstration permit that is reasonably related to AWP and the protection of public health.
1. ~~Pertinent licenses or certifications held by the person,~~
 2. ~~Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility, and~~
 3. ~~Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities.~~
- E. ~~Demonstration AWTFs shall only be built to pilot or full-scale. The piloting requirements and timeframe in R18-9-C815 may be abbreviated at the Director's discretion. If an applicant reports significant failures at a critical control point during abbreviated piloting, the Director may require other measures.~~
- F. ~~Bench scale demonstration AWTFs are prohibited. At all times during operation of a permitted AWP demonstration facility, at least one operator of the facility shall, at a minimum, be certified as an AWP provisional operator pursuant to R18-9-B804(F). Any operator may be credited with advanced water treatment qualifying experience under R18-9-B804.~~
- G. ~~An operator of an AWP demonstration facility may be credited with advanced water treatment qualifying experience under R18-9-B804.~~ The following apply to Demonstration Permits under this section:
1. Public notice and public participation requirements in R18-9-D819 and R18-9-D820.
 2. Permit term and permit renewal requirements in R18-9-D822 and
 3. Permit suspension, revocation, denial, and termination requirements in R18-9-D823.

- ~~H. The public notice and public participation requirements in R18-9-D819 and R18-9-D820 apply to demonstration permits issued under this section.~~
- ~~I. The permit suspension, revocation, denial, and termination requirements in R18-9-D823 apply to demonstration permits issued under this section.~~
- ~~J. The permit term and permit renewal requirements in R18-9-D822 apply to demonstration permits issued under this section.~~
- ~~K. All design plans, specifications, and design reports submitted under this section shall be signed, dated, and sealed by an Arizona-registered professional engineer. The Arizona-registered professional engineer shall demonstrate the following information to the Department for each person principally responsible for designing the facility:~~
- ~~1. Pertinent licenses or certifications held by the person;~~
 - ~~2. Professional training relevant to the design of an AWTF, water reclamation facility, or drinking water treatment facility;~~
 - ~~3. Work experience relevant to the design of AWTF, water reclamation facilities, or drinking water treatment facilities, and~~
 - ~~4. A verification letter from an independent party certifying the performance of a manufacturer's equipment or a product that the professional engineer is relying upon for treatment credits, along with the information required under subsections (K)(1), (2), and (3) of this section, for the independent party certifying the product.~~

R18-9-C818. Compliance Schedule

- ~~A. No Change~~
- ~~1. No Change~~
 - ~~2. No Change~~
 - ~~3. No Change~~
 - ~~4. No Change~~
- ~~B. Distribution of advanced treated water is prohibited until the Department approves all compliance schedule items established under the AWP permit pursuant to R18-9-C816(E).~~
- BC.** The Department shall consider all of the following factors when setting any additional AWP permit compliance schedule requirements not prescribed under R18-9-C816(E):
1. The impact on advanced treated water quality,
 2. The impact on drinking water customers,
 3. The requirements for permit amendment, and
 4. Any other factors determined at the Director's discretion.

PART D. GENERAL PERMIT REQUIREMENTS

R18-9-D819. Public Notice

- A.** AWP Permits.

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1. The Department shall ~~provide~~ notify the entities specified in subsection (A)(2) ~~with monthly written notification~~, by regular mail or electronically, upon the occurrence of any of the following:
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
2. Entities.
 - a. No Change
 - b. No Change
 - c. A person who requested, in writing or by electronic mail subscription, notification of the activities described in subsection (A)(1).

- B.** The Department shall additionally post the information referenced in subsections (A)(1) and (2) on the Department website:
www.azdeq.gov.

R18-9-D821. Permit Amendments

- A.** No Change
1. No Change
 2. No Change
 3. No Change
- B.** Significant Amendment.
1. Significant AWP permit amendments may include, but are not limited to:
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change
 - g. The addition or removal of an AWPRA ~~p~~Partner from the AWPRA,
 - h. Authorization to deliver advanced treated water ~~or distribute finished water~~ following completion of post-permit compliance schedule items, and
 - i. The designation of additional Tier 2 chemicals requiring a modification.

2. An AWPRA shall submit, along with the detailed permit amendment request in subsection (A)(1), an explanation of the proposed ~~change modifications~~ as well as the safeguards that the AWTF will implement to ensure that the quality of the water served will not be adversely affected ~~by any modification~~.

C. Minor Amendment. Minor AWP permit amendments may include, but are not limited to:

1. No Change
2. No Change
3. No Change
4. No Change
5. No Change
6. Changes to the treatment train, monitoring equipment, or any other component that is not a replacement of, or substantially similar to the approved components, but will not result in a change in the advanced treated water, and
7. The designation of additional Tier 2 chemicals that does not require a modification.

D. No Change

R18-9-D822. Permit Term; Permit Renewal

- A. An AWP permit and AWP demonstration permit are valid for five years from the date of permit issuance ~~the permit is issued pursuant to R18-9-C816.~~
- B. No Change
 1. No Change
 2. No Change
- C. To renew an AWP permit issued pursuant to R18-9-C816, ~~The~~ the AWPRA shall demonstrate the following requirements to the Department in a renewal application submitted on a form prescribed by the Director:
 1. No Change
 - a. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - b. No Change
 2. No Change
 3. Any proposed modification to an operation, treatment process, treatment configuration, or water quality parameter from the facility design most recently approved under an AWP permit shall result in preparation and submission of the applicable, following documents to the Department:

- a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change
4. An updated Operations Plan, prepared pursuant to R18-9-F836, and revised, as necessary, which includes, but is not limited to:
- a. An updated list of operators who are certified by the Department appropriately for all facilities within an AWP project, ~~including any finished water distribution systems, and~~
 - b. No Change
5. No Change
6. No Change
7. No Change
8. No Change
9. No Change
10. A renewed demonstration of compliance with all minimum design requirements pursuant to R18-9-F832, ~~and~~
11. An updated Monitoring Plan, prepared pursuant to R18-9-E829, including the proposed pathogen and chemical action levels, ~~and~~
12. A renewed Tier 2 analysis, including an updated Chemical Inventory List, pursuant to R18-9-E826, and

- D.** To renew an AWP demonstration permit issued pursuant to R18-9-C817, the AWPR shall demonstrate the requirements in subsection (C), above, as applicable to the facility's most recently issued permit, or otherwise at the Director's discretion.

PART E. CONSTITUENT CONTROL, MONITORING, AND REPORTING

R18-9-E824. Enhanced Source Control

- A. ~~Treated wastewater used to supply an AWP project shall originate from a water reclamation facility that has local authority to implement an enhanced source control program, including authority for oversight, enforcement, and inspection. The AWP project shall maintain an enhanced source control program for treated wastewater from a water reclamation facility used to supply an AWTF based upon the legal authority and procedural requirements of this section, which shall, at all times, be fully and effectively exercised and implemented. Constituents of concern that are not able to be controlled through treatment at an AWTF shall be controlled through the enhanced source control program.~~
- B. An AWPR applicant shall develop, and an AWPR permittee shall maintain, ~~a locally authorized enhanced source control program which shall:~~ an enhanced source control program which shall comply with the requirements of this section.

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- ~~1. Operate pursuant to specific legal authority enforceable in State or local courts, including the ability to file civil and/or criminal complaints for program violations;~~
- ~~2. Identify, control, or eliminate constituents of concern discharged into the collection systems through the use of constituents of concern control methods including local ordinances and local limits;~~
- ~~3. Include a summary of local limits and other discharge control methods;~~
- ~~4. Include a list of potentially impactful non-domestic dischargers in the service area;~~
 - ~~a. A potentially impactful non-domestic discharger is a source that meets one or more of the following:~~
 - ~~i. The source is subject to the National Pretreatment Program pretreatment standards;~~
 - ~~ii. The source may adversely affect the AWWTF operation including pass-through or interference;~~
 - ~~iii. The source has a potential to have serious adverse effects on public health;~~
 - ~~iv. The source has a potential to prevent the AWPRA from achieving requisite treatment standards for any contaminant regulated under this Article;~~
 - ~~v. The source has a potential to cause a violation of a Tier 1 standard; or~~
 - ~~vi. The source has otherwise been designated as potentially impactful by the water reclamation facility.~~
 - ~~b. The potentially impactful non-domestic discharger list shall be:~~
 - ~~i. Utilized to generate a list of impactful non-domestic dischargers, subject to additional control measures, in accordance with subsection (C) of this section;~~
 - ~~ii. Reported to ADEQ every year through the annual report prepared pursuant to R18-9-E831;~~
 - ~~iii. Continuously updated with newly introduced chemicals or new potentially impactful non-domestic dischargers, or as a result of any other event that causes a change within the collection systems impacting the advanced treated water quality;~~
 - ~~iv. Verified through open and ongoing communication, as well as routine site visits with the identified potentially impactful non-domestic discharger. Verification may include inquiry into chemical use, potential discharges, and any potential or planned changes in operation that could impact the advanced treated water quality; and~~
 - ~~v. Accompanied by collection system investigations to identify sources of Tier 1 or Tier 2 chemical peaks that have a significant impact on advanced treated water quality. These investigations shall occur at all necessary sewer lines, manholes, force mains, lift stations, and other collection system components.~~
- ~~5. Include a map of the collection system components, which shall be submitted to the Department and shall include locations of the potentially impactful non-domestic discharges in the collection system;~~
- ~~6. Include a list of all water reclamation facilities in the collection system that provide treated wastewater to the AWPRA as a source under the AWP program along with a description or map of their respective boundaries;~~

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7. ~~Include activities that protect the water reclamation facility(s) and AWWTF(s) from pass-through or interference from constituents of concern which may include, but are not limited to, the creation of additional local limits or addressing routine monitoring activities;~~
8. ~~Include a pollutant reduction and elimination plan that addresses both non-domestic and domestic dischargers with the goal of mitigating or eliminating constituents of concern prior to entry into the collection system. The plan shall include, at a minimum, the following:~~
 - a. ~~A determination of whether targeted outreach is necessary. If necessary, targeted outreach shall include the development of targeted outreach programs for non-domestic dischargers determined to be impactful in accordance with subsection (C)(2) of this section;~~
 - b. ~~Education and encouragement of non-domestic dischargers determined to not be impactful in accordance with subsection (C)(2) of this section to participate in pollution prevention programs or environmental stewardship programs that reduce or eliminate the discharge of constituents of concern into the collection system, including the requirement to consider alternatives to constituent of concern usage;~~
 - e. ~~A public outreach program for domestic dischargers, and~~
 - d. ~~Notification and public hearings on the AWP program and significant program developments;~~
9. ~~Include a septage hauler control program that tracks and monitors loads and includes a load sampling program which shall retain all load sampling results for a minimum of five years;~~
10. ~~Implement a program to receive early warning for the purpose of attaining advanced notice of an incoming constituents of concern peak. An early warning system shall include, at a minimum, the following:~~
 - a. ~~Online monitoring instrumentation that evaluate data in real time located either in the influent to the water reclamation facility, in the collection system, or at the discharging entity that measures constituents of concern or surrogate parameter(s) and that indicates potential treatment interference, pass-through, or a violation of an AWP action level;~~
 - b. ~~A process for notification to the AWPRA of any discharge that can potentially result in the release of contaminants above local limits established pursuant to subsection (B)(3) of this section;~~
 - e. ~~Cooperation with local county public health departments, as necessary, to track constituents of concern peaks from disease outbreaks or other impactful health events;~~
 - d. ~~A response plan developed pursuant to subsection (B)(12) of this section;~~
 - e. ~~A plan for routine calibration of early warning system equipment with the goal of reliable performance;~~
 - f. ~~A plan for rapid response and addressing of equipment failure, and~~
 - g. ~~Other early warning measures required by the Department, which are necessary to protect the operations of the AWPRA project treatment or prevent contamination of the advanced treated water, based on a review of application components submitted to the Department for review, and on the availability of such measures;~~

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11. ~~Be audited at least every five years by an independent party to assess the effectiveness of the enhanced source control program in controlling the discharge of contaminants;~~
12. ~~Include a clear and comprehensive response plan to address constituents of concern exceedances. The response plan shall be created in partnership with all relevant AWPRA partners. The plan shall include, at a minimum, the following:~~
 - a. ~~A procedure for addressing constituents of concern peaks with the potential to impact advanced treated water quality;~~
 - b. ~~An investigation and identification of the exceedance source, or if no source is identified, the initiation of a collection system sampling program;~~
 - c. ~~The designation of the leading facility responsible for communication with the AWPRA partners;~~
 - d. ~~A procedure for when and how to notify the Department upon a constituent of concern exceedance;~~
 - e. ~~A procedure for the bypass and/or shutdown of the AWWTF, if necessary;~~
 - f. ~~An effective training program ensuring the understanding of the response plan by the responsible personnel;~~
 - g. ~~A review of the operation and calibration records for online meters and any relevant analytical methods upon the detection of a constituent of concern exceedance; and~~
 - h. ~~Submission of a memorandum of understanding or other contractual agreement between all entities necessary to effectuate the response plan; and~~
13. ~~Prohibit the discharge of any of the following to the water reclamation facility:~~
 - a. ~~Pollutants which create a fire or explosion hazard, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR Part 261.21;~~
 - b. ~~Pollutants which will cause corrosive structural damage including discharges with a pH lower than 5.0, unless the treatment works are designed to accommodate such discharges;~~
 - c. ~~Solid or viscous pollutants in amounts which will cause obstruction to the flow resulting in interference;~~
 - d. ~~Any pollutant, including oxygen demanding pollutants (biochemical oxygen demand, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference;~~
 - e. ~~Heat in amounts which will inhibit biological activity resulting in interference including heat in such quantities that the temperature at the water reclamation facility exceeds 40 °C (104 °F), unless the approval authority, upon request of the water reclamation facility, approves alternate temperature limits;~~
 - f. ~~Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;~~
 - g. ~~Pollutants which result in the presence of toxic gas, vapors, or fumes in a quantity that may cause acute worker health and safety problems; and~~
 - h. ~~Any trucked or hauled pollutants, except at discharge points designated by the water reclamation facility; and~~

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14. ~~Include local authority for the AWPRA to take the following actions to determine compliance of a potentially impactful non-domestic discharger with a local ordinance:~~
 - a. ~~Receive and analyze all self-monitoring reports and notices submitted by potentially impactful non-domestic dischargers,~~
 - b. ~~Randomly sample and analyze effluent from potentially impactful non-domestic dischargers and conduct surveillance and inspection activities needed to identify, independent of any information supplied by such users, occasional or continuing noncompliance with any local limit or requirement, and~~
 - e. ~~Investigate instances of noncompliance with any enhanced source control ordinance when notice of any actual or probable noncompliance has been received by the AWPRA, and~~
15. ~~Report all program elements in this subsection to the Department annually, pursuant to R18-9-E831, and~~
16. ~~Include any other relevant information required by the Department.~~

C. ~~Impactful Non-Domestic Dischargers List.~~Legal Authority. The AWP project shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the AWP project to apply and enforce the enhanced source control requirements of this section.

1. ~~From the potentially impactful non-domestic dischargers list developed in subsection (B)(4) of this section, the AWPRA applicant shall develop a list of impactful non-domestic dischargers by conducting a significant impact analysis for each potentially impactful non-domestic discharger that considers, but is not limited to, the following factors:~~Legal authority may be contained in an ordinance or series of contracts or joint powers agreements which the AWP project is authorized to enact, enter into, or implement, and which are authorized by Federal or State law.
 - a. ~~Average wastewater discharged into the collection system;~~
 - b. ~~Dilution of discharge within the collection system;~~
 - e. ~~The nature of the discharge and its constituents;~~
 - d. ~~The ability of downstream treatment processes to address the discharge, and~~
 - e. ~~The effect the discharge will have on treatment processes and advanced treated water.~~
2. ~~The AWPRA permittee shall subject the identified impactful non-domestic dischargers in the collection system to additional control measures including, but not limited to:~~Except where tribal sovereignty conflicts arise, the legal authority shall, at a minimum, enable the AWP project to:
 - a. ~~Locally established discharge limits;~~Require compliance with applicable enhanced source control requirements and AWP program requirements by potentially impactful non-domestic dischargers.
 - b. ~~Locally established monitoring, and~~Identify, control, or eliminate constituents of concern discharged into the AWP project by each potentially impactful non-domestic discharger.

- c. ~~Targeted outreach.~~ Require the submission of all notices and self-monitoring reports from potentially impactful non-domestic dischargers as necessary to assess and assure compliance with the enhanced source control requirements, and
- d. Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance or noncompliance with applicable enhanced source control requirements by potentially impactful non-domestic dischargers, including authorization for representatives of the AWP project to enter any premises of any potentially impactful non-domestic discharger.
- 3. ~~The list shall be reported to ADEQ every year through the annual report prepared pursuant to R18-9-E831.~~
- D. ~~In addition to the requirements of this section, an enhanced source control program shall be developed, conducted, and maintained using good engineering practices. Methods for developing, conducting, and maintaining an enhanced source control program shall be approved if the AWPRA applicant can demonstrate that the methods are sufficiently detailed and robust for the purpose of enhanced source control, pursuant to this Article.~~ Procedures. The AWP project shall develop and implement procedures to ensure compliance with the enhanced source control requirements of this section.

 - 1. ~~ADEQ shall develop and make available guidance on developing, conducting, and maintaining an enhanced source control program.~~ Procedures shall be established and maintained in an Enhanced Source Control Plan, submitted with the AWP application pursuant to R18-9-C816 and updated during permit renewal pursuant to R18-9-D822.
 - 2. ~~An enhanced source control program developed, conducted, and maintained in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.~~ The Enhanced Source Control Plan shall, at a minimum, include:

 - a. An identification of potentially impactful non-domestic dischargers in the AWP project's collection system. A source or class-representative is a potentially impactful non-domestic discharger if it meets one or more of the following:

 - i. The source is subject to the National Pretreatment Program pretreatment standards;
 - ii. The source may adversely affect the AWTF operation including pass-through or interference;
 - iii. The source has a potential to have serious adverse effects on public health;
 - iv. The source has a potential to prevent the AWPRA from achieving requisite treatment standards for any contaminant regulated under this Article;
 - v. The source has a potential to cause a violation of a Tier 1 standard; or
 - vi. The source has otherwise been designated as potentially impactful by the water reclamation facility, and
 - b. An identification of impactful non-domestic dischargers in the AWP project's collection system. The AWPRA shall identify an impactful non-domestic discharger by applying a significant impact analysis to each potentially impactful non-domestic discharger that considers, but is not limited to, the following factors:

 - i. Average wastewater discharged into the collection system

- ii. Education and encouragement of potentially impactful non-domestic dischargers, to participate in pollution prevention programs or environmental stewardship programs that reduce or eliminate the discharge of constituents of concern into the collection system, including the requirement to consider alternatives to constituents of concern usage.
- iii. A public outreach program for domestic dischargers, and
- iv. Notification and public hearings on the AWP program and significant program developments.
- h. A Septage Hauler Control Program which tracks and monitors loads and shall include, at a minimum, load sampling activities with all load sampling results retained for a minimum of five years following load sampling results.
- i. An Early Warning Program for the purpose of attaining advanced notice of incoming abnormalities in the water reclamation facility influent or within the collection system.
 - i. An early warning program shall include online monitoring instrumentation that evaluates data in real time.
 - ii. Online monitoring instrumentation shall be located at the influent to a water reclamation facility, in the collection system, or at the discharging entity.
 - iii. Online monitoring instrumentation shall measure constituents of concern or surrogate parameter(s) that indicate the potential for treatment interference, pass-through, or violation of an AWP action level.
 - iv. An early warning program shall include a process for notification to the AWPRA of any discharge that can potentially result in interferences to downstream treatment processes.
 - v. An early warning program may additionally include cooperation with local county public health departments to track constituent of concern peaks from disease outbreaks or other impactful health events, a response plan pursuant to subsection (D)(2)(i) of this section, a performance plan establishing routine calibration of early warning system equipment, or a rapid response plan to address equipment failure and other related measures.
- j. A Response Plan to address consistent and ongoing constituents of concern exceedances, which shall be created in partnership with all relevant AWPRA Partners, and include, at a minimum, the following:
 - i. A procedure for addressing constituents of concern peaks with the potential to impact advanced treated water quality.
 - ii. An investigation and identification of the exceedance source, or if no source is identified, the initiation of a collection system sampling program.
 - iii. The designation of the leading facility responsible for communication with the AWPRA Partners.
 - iv. A procedure for notifying the Department upon a constituent of concern exceedance.
 - v. A procedure for the bypass and/or shutdown of the AWTF, if necessary.
 - vi. An effective training program ensuring the understanding of the response plan by the responsible personnel.

- vii. A review of the operation and calibration records for online meters and any relevant analytical methods upon the detection of a constituent of concern exceedance, and
 - viii. Submission of a memorandum of understanding or other contractual agreement between all entities necessary to effectuate the response plan, and
 - k. Clear prohibitions on the discharge of any of the following to the water reclamation facility:
 - i. Pollutants which create a fire or explosion hazard, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR Part 261.21.
 - ii. Pollutants which will cause corrosive structural damage including discharges with a pH lower than 5.0, unless the treatment works are designed to accommodate such discharges.
 - iii. Solid or viscous pollutants in amounts which will cause obstruction to the flow resulting in interference.
 - iv. Any pollutant, including oxygen demanding pollutants (biochemical oxygen demand, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference.
 - v. Heat in amounts which will inhibit biological activity resulting in interference including heat in such quantities that the temperature at the water reclamation facility exceeds 40 °C (104 °F), unless the approval authority, upon request of the water reclamation facility, approves alternate temperature limits.
 - vi. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through.
 - vii. Pollutants which result in the presence of toxic gas, vapors, or fumes in a quantity that may cause acute worker health and safety problems, and
 - viii. Any trucked or hauled pollutants, except at discharge points designated by the water reclamation facility, and
 - l. Other related information as reasonable and necessary to support the development and implementation of the AWPRA's enhanced source control program or assist the Department's review and approval of the Enhanced Source Control Plan.
 - 3. The potentially impactful non-domestic dischargers list identified in the Enhanced Source Control Plan shall be:
 - a. Continuously updated with newly introduced chemicals or new potentially impactful non-domestic dischargers, or as a result of any other event that causes a change within the collection systems impacting the advanced treated water quality.
 - b. Verified through open and ongoing communication, as well as routine site visits pursuant to subsection (C)(2) of this section. Verification may include inquiry into chemical use, potential discharges, and any potential or planned changes in operation that could impact the advanced treated water quality, and
 - c. Accompanied by collection system investigations to identify sources of Tier 1 or Tier 2 chemical peaks that have a significant impact on advanced treated water quality pursuant to subsection (C)(2) of this section. These investigations shall occur at all necessary sewer lines, manholes, force mains, lift stations, and other collection system components.

4. The Enhanced Source Control Plan shall be audited at least every five years by an independent party to assess the effectiveness of the enhanced source control program in controlling the discharge of constituents of concern.
 5. The Enhanced Source Control Plan shall be updated and reported pursuant to the Annual Report requirements in R18-9-E831.
- E. An AWPR shall form and maintain a source control committee that includes representatives from:
1. Each ~~AWPRA partner~~ AWPRA Partner that is part of the AWPRA's enhanced source control program, including each ~~AWPRA partner~~ AWPRA Partner that supplies treated wastewater to the AWP project or that owns and/or operates a water reclamation facility that provides treatment, and
 2. Key non-domestic dischargers and others that discharge to the collection system chemicals that may pose a risk to public health.
- F. In addition to the requirements of this section, an enhanced source control program shall be developed, conducted, and maintained using good engineering practices. Methods for developing, conducting, and maintaining an enhanced source control program shall be approved if the AWPRA applicant can demonstrate that the methods are sufficiently detailed and robust for the purpose of enhanced source control, pursuant to this Article.
1. ADEQ shall develop and make available guidance on developing, conducting, and maintaining an enhanced source control program.
 2. An enhanced source control program developed, conducted, and maintained in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

R18-9-E825. Tier 1 Chemical Control; ~~Maximum Contaminant Levels~~

For the purposes of this Article, Tier 1 chemicals are the chemical contaminants that have "National Primary Drinking Water Regulations~~Standards~~" under 40 CFR Part 141 as incorporated by reference in R18-4-102, ~~including those with Safe Drinking Water Act required Maximum Contaminant Levels or Treatment Techniques.~~

R18-9-E826. Tier 2 Chemical Control; Advanced Water Purification-Specific Chemicals

- A. An AWPRA shall conduct a Tier 2 analysis under this section in order to determine Tier 2 chemicals, propose alert and action levels for Tier 2 chemicals at the AWTF, and to identify the chemical controls necessary to be implemented by the AWPRA in the following manner:
1. An AWPRA applicant shall conduct the analysis as a required technical component of their permit application for an AWP permit or an AWP demonstration permit, pursuant to R18-9-C816 and R18-9-C817, respectively.
 2. Once permitted, an AWPRA shall update the Chemical Inventory List and conduct a new Tier 2 Analysis under this section:
 - a. If the AWPRA is aware of, becomes aware of, or should reasonably be aware of:

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- i. The identification of additional potentially impactful non-domestic dischargers pursuant to R18-9-E824(D)(2)(a) and R18-9-E831(B)(6)(d) that are likely to, or will, significantly impact the concentration of an existing constituent of concern or significantly discharge chemicals into the collection system that are likely to become constituents of concern; or
 - ii. Significant volumetric adjustments to an AWPRA water reclamation facility's total daily volume of treated wastewater that are likely to impact the expected concentration of any chemical pursuant to subsection (C) of this section; or
 - b. If changes to any component of the permitted AWP project occur that will result in an exceedance of an action level; or
 - c. At a minimum, every five years as a component of a permit renewal application pursuant to R18-9-D822.
 3. If a new Tier 2 analysis conducted in response to any trigger in subsections (A)(2) results in the designation of additional Tier 2 chemicals, the AWPRA shall request an amendment to their AWP permit pursuant to R18-9-D821.
- ~~B. Non-Domestic Dischargers List. The AWPRA applicant shall list all non-domestic dischargers in the collection system that are a direct or indirect source to an AWPRA water reclamation facility.~~
- ~~CB. Pre-Tier 2 Analysis Requirements, Chemical Inventory List. The AWPRA applicant shall generate a list of chemicals that are used, stored, or discharged by all non-domestic dischargers in the list from subsection (B) above. The AWPRA applicant shall add chemicals used at the water reclamation facility and the AWWTF to the chemical inventory list.~~
1. Chemical Inventory List. In a format approved by the Department, the AWPRA applicant shall generate a list of chemicals from all potentially impactful non-domestic dischargers identified in R18-9-E824(D)(2)(a), listed individually or classified as applicable in R18-9-E824(D)(2)(c), and shall:
 - a. Include chemicals that are used, that are stored, and that are discharged from all potentially impactful non-domestic dischargers. For the purpose of this section:
 - i. "Used" means chemicals used by a potentially impactful non-domestic discharger in actively applied manufacturing, processing, or production on-site, which have the potential to end up in the wastewater stream. Chemicals not included may be those that are used for routine janitorial or facility grounds maintenance, or used by employees as personal care products.
 - ii. "Stored" means chemicals stored by a potentially impactful non-domestic discharger for manufacturing, processing, sale, resale, or production that have the potential to enter the wastewater stream. Chemicals not included may be those that are stored for routine janitorial or facility grounds maintenance, stored by employees as personal care products, or stored with a physical barrier (not including a container or bottle) between the chemical and the entry point to the collection system. Chemicals stored for the primary purpose of sale or resale may be excluded so long as those chemicals are stored in amounts that, if released, would not significantly impact downstream AWP processes. Significant impact may be determined based on volume (e.g. 10 gallons or 100 lbs) or risk profile.

iii. “Discharged” means chemicals discharged by a potentially impactful non-domestic discharger as a result of actively applied manufacturing, processing, or production on-site, which normally end up in the wastewater stream. Chemicals not included may be those that are used for routine janitorial or facility grounds maintenance, or used by employees as personal care products.

b. Include chemicals that are used or generated at the water reclamation facility and the AWTF, and

c. Exclude Tier 1 chemicals as prescribed in R18-9-E825.

2. Pass-Through or Interference Chemical Identification and Control. The AWPRA applicant shall analyze the Chemical Inventory List in subsection (B)(1) in order to identify chemicals that are known, expected, or projected to pass-through or interfere with AWTF treatment processes.

a. This Pass-Through or Interference List shall be considered in R18-9-C815(B)(5).

b. Chemicals that remain as Pass-Through or Interference chemicals after piloting or full-scale verification are constituents of concern that shall be controlled or eliminated in Enhanced Source Control pursuant to R18-9-E824 and/or the Operation Plan pursuant to R18-9-F836.

DC. ~~Tier 2 Analysis. The AWPRA applicant shall conduct the following analysis for each chemical identified in the Chemical Inventory List in subsection (C) above:~~

1. ~~Calculate the projected daily load for each chemical in the inventory list generated in subsection (C) for each non-domestic discharger in the list generated in subsection (B) as follows: Mass loading of contaminant (lb/day) = Flow (MGD) x Maximum Concentration (mg/L) x 8.34 (for unit conversion);~~

The AWPRA applicant shall first determine which chemicals from the Chemical Inventory List in subsection (B)(1) also have a corresponding available testing method, pursuant to R18-9-A802(B). Chemicals that do not have an available testing method are not Tier 2 chemicals.

2. ~~Calculate the projected total daily load of each chemical in the inventory list generated in subsection (C) for all non-domestic dischargers in the list generated in subsection (B), cumulatively, as follows: Total Contaminant Load (lb/day) = $\sum$ Mass loading (lb/day) for all dischargers;~~

The AWPRA applicant shall determine whether the remaining chemicals from subsection (C)(1) above appear in the EPA, Departmental or Other States’ health advisory lists referenced in subsections (C)(4)(a), (b), and (c). Any chemical determined not to have an EPA, Departmental or Other States’ health advisory shall be analyzed pursuant to subsection (C)(6), below.

a. For each chemical determined to have either an EPA or Departmental health advisory in subsection (C)(2), along with each chemical with an applicant-proposed health advisory from subsection (C)(6) below, the AWPRA applicant shall develop either a projected or an actual daily concentration for each chemical utilizing one of the following two options:

i. Option 1: Calculate the projected daily concentration pursuant to subsection (C)(3) below; or

- ii. Option 2: Derive the actual daily concentration by utilizing the monitoring method prescribed in subsection (C)(5), and
3. Calculate the projected daily concentration of each chemical in the chemical inventory list in the treated wastewater by comparing the collection system's projected total daily load from subsection (D)(2) for each chemical in the chemical inventory list against the total influent flow of treated wastewater at the headworks of the proposed AWTF using the following formula:
- Projected Daily Concentration Chemicals. For each chemical under Option 1 from subsection (C)(2)(a)(i), the AWPRA applicant shall calculate the projected daily concentration using the Individually-Listed Approach and/or the Class-Representative Approach. A potentially impactful non-domestic discharger that has also been designated as an impactful non-domestic discharger under R18-9-E824(D)(2)(b) may neither be, nor be represented by, a class-representative. An AWPRA applicant must utilize the Individually-Listed Approach when calculating the projected daily concentration of a chemical from an impactful non-domestic discharger.
- a. Individually-Listed Approach. Calculate the chemical's projected daily load for each individually-listed potentially impactful non-domestic discharger as follows: Projected Daily Load (lb/day) = Flow (MGD) x Maximum Concentration (mg/L) x 8.34 (for unit conversion), and/or
- b. Class-Representative Approach. For each class-representative potentially impactful non-domestic discharger for a listed class:
- i. Calculate the chemical's projected daily load for each class-representative potentially impactful non-domestic discharger as follows: Projected Daily Load (lb/day) = Flow (MGD) x Maximum Concentration (mg/L) x 8.34 (for unit conversion).
- ii. Multiply the chemical's projected daily load, identified in (C)(3)(b)(i), with the number of potentially impactful non-domestic dischargers in the class, and
- c. Calculate the chemical's projected total daily load, cumulatively, for all potentially impactful non-domestic dischargers (Individually-Listed and Class-Representative) in the collection system as follows:
- Projected Total Daily Load (lb/day) = Σ Mass loading (lb/day).
- d. Calculate the chemical's projected daily concentration in the treated wastewater by comparing the collection system's projected total daily load from subsection (C)(3)(c) against the total influent flow of treated wastewater at the headworks of the proposed AWTF using the formula below, and

$$\text{Chemical's Projected Daily Concentration (mg/L)} = \frac{\text{Chemical's Projected Total Daily Load (lb/day)}}{\text{Total AWTF Influent Flow (MGD) X 8.34}}$$

4. For chemicals with one or more of the corresponding health advisory values in subsections (a)(i) through (v) below established in the "2018 Edition of the Drinking Water Standards and Health Advisories Tables":

a. ~~Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the lowest health advisory value, from the following available values:~~

- ~~i. One-day (mg/L)~~
- ~~ii. Ten-day (mg/L)~~
- ~~iii. DWEL (mg/L)~~
- ~~iv. Life-time (mg/L)~~
- ~~v. mg/L at 10^{-4} Cancer Risk~~

b. ~~If the projected daily concentration exceeds the health advisory value, the chemical shall be a Tier 2 chemical.~~
EPA, Departmental and Other States' Health Advisory Lists. For each chemical with a daily concentration calculated in subsections (C)(3) or (C)(5) compare that daily concentration against the corresponding EPA, Departmental or Other States' Health Advisory values:

a. EPA Health Advisory List. The lowest available value, from the following values in the "2018 Edition of the Drinking Water Standards and Health Advisories Tables":

- i. One-day (mg/L).
- ii. Ten-day (mg/L).
- iii. DWEL (mg/L).
- iv. Life-time (mg/L).
- v. mg/L at 10^{-4} Cancer Risk, and

b. Departmental Health Advisory List.

- i. Trimethylbenzene (1,2,4-) (CAS No. 95-63-6): 0.33 mg/L.
- ii. Benz[a]anthracene (CAS No. 56-55-3): 0.035 mg/L.
- iii. Benzo[b]fluoranthene (CAS No. 205-99-2): 0.035 mg/L.
- iv. Benzo[g,h,i]perylene (CAS No. 191-24-2): 0.014 mg/L.
- v. Benzo[k]fluoranthene (CAS No. 207-08-9): 0.0030.350 mg/L.
- vi. Chrysene (CAS No. 218-01-9): 3.5 mg/L.
- vii. Dimethyl phthalate (CAS No. 131-11-3): 0.70 mg/L.
- viii. Indeno[1,2,3,-cd]pyrene (CAS No. 193-39-5): 0.035 mg/L, and
- ix. Phenanthrene (CAS No. 85-01-8): 0.21 mg/L, and

c. Other States' Health Advisory List. August 24, 2026 Version, and

d. If the daily concentration exceeds the corresponding health advisory value in (C)(4)(a), (b), or (c), the chemical shall be a Tier 2 chemical and the AWPRA applicant shall propose action and alert levels pursuant to subsection (C)(7), below, and

5. ~~For chemicals that do not have an established health advisory pursuant to subsection (D)(4) above but do have a drinking water health advisory notification level or equivalent from a state drinking water program that was developed using a method that ADEQ approves and lists under subsection (a), below:~~
- ~~a. Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the following corresponding state drinking water health advisory notification level or equivalent: Trimethylbenzene (1,2,4-) (CAS No. 95-63-6): 0.33 mg/L.~~
 - ~~b. If the projected daily concentration exceeds the health advisory notification level, the chemical shall be a Tier 2 chemical.~~

Actual Daily Concentration Monitoring Chemicals. For each chemical under Option 2 from subsection (C)(2)(a)(ii), the AWPRA applicant shall conduct monitoring at all water reclamation facilities delivering treated wastewater as a source to an AWTE.

a. Monitoring.

- i. Monitoring shall be located before any AWP-credited pathogen treatment process, if applicable. If not applicable, monitoring shall be located at the point of diversion to the AWTE, or another Departmentally-approved location, and
- ii. The AWPRA applicant shall collect a minimum of twelve monthly composite samples representative of seasonal variability, and
- iii. If there is wide variability in a chemical concentration, meaning the coefficient of variation is greater than fifty percent, the AWPRA applicant shall reasonably increase the sampling interval in order to evidence this variability, and
- iv. If a sample's results are above the chemical's method's detection limit, but below the chemical's method reporting limit, the sample shall be reported at the method's reporting limit, and
- v. If a sample's results are below the method's detection limit, the sample shall be reported as a "non-detect", and
- vi. At the conclusion of the monitoring period, the actual daily concentration is the highest value recorded during that period.

b. Comparison and Tier 2 Determination.

- i. The AWPRA applicant shall compare the actual daily concentration for the chemical against the corresponding EPA, Departmental, or Other States' health advisory values in (C)(4)(a), (b), or (c) or a proposed health advisory value developed in (C)(6)(a)(iv), or (v), and
- ii. If the actual daily concentration exceeds the corresponding health advisory value, the chemical shall be a Tier 2 chemical and the AWPRA applicant shall propose action and alert levels pursuant to subsection (C)(7) below, and

- c. Report. The AWPRA applicant shall prepare an Actual Daily Concentration Monitoring Report which includes, but is not limited to, the elements in R18-9-C814(E)(1)-(10) and identifies the chemicals determined to be Tier 2 in subsection (C)(5)(b)(ii) above, and
6. ~~For chemicals that do not have an established health advisory pursuant to subsection (D)(4) above, nor a notification level in another state's drinking water program pursuant to subsection (D)(5) above:~~
- a. ~~Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the corresponding Departmental health advisory value listed below:~~
- i. ~~Benz[a]anthracene (CAS No. 56-55-3): 0.06 mg/L~~
 - ii. ~~Benzo[b]fluoranthene (CAS No. 205-99-2): 0.06 mg/L~~
 - iii. ~~Benzo[g,h,i]perylene (CAS No. 191-24-2): 0.00001 mg/L~~
 - iv. ~~Benzo[k]fluoranthene (CAS No. 205-99-2): 0.005 mg/L~~
 - v. ~~Chrysene (CAS No. 218-01-9): 6 mg/L~~
 - vi. ~~Dimethyl phthalate (CAS No. 131-11-3): 0.001 mg/L~~
 - vii. ~~Indeno[1,2,3-c,d]pyrene (CAS No. 193-39-5): 0.06 mg/L~~
 - viii. ~~Phenanthrene (CAS No. 85-01-8): 0.0002 mg/L~~
- b. ~~If the projected daily concentration exceeds the Departmental health advisory value, the chemical shall be a Tier 2 chemical for ongoing monitoring purposes pursuant to R18-9-E829, but shall be exempt from all compliance requirements under R18-9-E829(D) and the Projected Chemical Treatment List in subsection (F) below.~~

Proposed Health Advisory Chemicals. Using the list of chemicals identified in subsection (C)(2)(b), which do not have a corresponding EPA, Departmental, or Other States' health advisory, the AWPRA applicant shall determine whether the chemical has an established Reference Dose (RfD) or Cancer Slope Factor (CSF) in the Oral Toxicity Values List, August 24, 2026 Version.

- a. If the chemical has an RfD or a CSF, the AWPRA applicant shall submit the following in a report to the Department and/or Project Advisory Committee prior to conducting initial source water characterization in R18-9-C814:
- i. The listed chemicals with identified RfDs or CSFs, and
 - ii. The associated RfD or CSF for each chemical, and
 - iii. The database source for each chemical's RfD or CSF, and
 - iv. A proposed health advisory value for each chemical with an RfD utilizing the following formula listed below:

$$HA_{\text{non-cancer}} = \frac{RfD \times 70 \text{ kg} \times 0.20}{2.0 \text{ L/day}}$$

- v. A proposed health advisory value for each chemical with a CSF utilizing the following formula listed below:

$$HA_{\text{cancer}} = \frac{10^{-4} \times 70 \text{ kg}}{\text{CSF} \times 2.0 \text{ L/day}}$$

- vi. If both an RfD and a CSF from the same database are present for the same chemical, proposed health advisories shall be calculated for both and the lower of the two values shall become the proposed health advisory.
- b. The Department and/or the Project Advisory Committee shall review and comment on the report.
- c. For each chemical identified in the report, the AWPRA applicant shall develop either a projected daily concentration or an actual daily concentration pursuant to subsections (C)(3) or (C)(5), respectively.
- d. If the daily concentration exceeds the proposed health advisory, the chemical shall be a Tier 2 chemical and the AWPRA applicant shall propose action and alert levels pursuant to subsection (C)(7), below, and
7. ~~For chemicals that do not have an established health advisory pursuant to subsection (D)(4) above, nor a notification level in another state's drinking water program pursuant to subsection (D)(5) above, nor a Departmental health advisory value pursuant to subsection (D)(6) above, but do have a Reference Dose (RfD) or Cancer Slope Factor (CSF) in credible peer-reviewed literature or state or Federal databases:~~
- a. ~~Consult with the Department and/or the Project Advisory Committee to determine a health advisory value.~~
- b. ~~Compare the projected daily concentration of each applicable chemical calculated in subsection (D)(3) with the corresponding health advisory determined in subsection (D)(7)(a) above.~~
- c. ~~If the projected daily concentration exceeds the health advisory determined in subsection (D)(7)(a), the chemical shall be a Tier 2 chemical.~~
- Proposed Action and Alert Levels. An AWPRA applicant shall calculate and submit to the Department an proposed action level and an proposed alert level for each Tier 2 chemical: as follows:
- a. The action level for the Tier 2 chemicals established under subsection (D)(4) through an EPA Health Advisory List comparison under subsection (C)(4)(a) and (C)(5)(b)(ii) shall be set at the same value as the lowest applicable health advisory value in the "2018 Edition of the Drinking Water Standards and Health Advisories Tables", EPA Health Advisory List table, as outlined below:
- i. One-day (mg/L),
 - ii. Ten-day (mg/L),
 - iii. DWEL (mg/L),
 - iv. Life-time (mg/L),
 - v. mg/L at 10⁻⁴ Cancer Risk, and

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- b. The action level for the Tier 2 chemicals established through a Departmental or Other States' Health Advisory List comparison under subsection ~~(D)(5)(C)(4)(b), (C)(4)(c), and (C)(5)(b)(ii)~~ shall be set at the ~~same value as the~~ corresponding health advisory notification level in subsection (D)(5)(a) corresponding Departmental or Other States' Health Advisory value,
- c. The action level for the Tier 2 chemicals established under subsection ~~(D)(7)(C)(6)~~ shall be set at the same value as the ~~corresponding health advisory determined in subsection (D)(7)(a):~~ proposed health advisory value identified by the AWPRA applicant,
- d. ~~The action level for the Tier 2 chemicals established under subsection (D)(8) shall be set at a value that is reasonably protective of human health, reasonably utilizing the results of the bioanalytical studies or bioassays. The alert level for all Tier 2 chemicals subject to ongoing monitoring compliance shall be set reasonably below the action level.~~
- e. ~~The alert level shall be set reasonably below the action level.~~ Method Reporting Limit.
 - i. Projected Daily Concentration. A chemical's alert level shall be set at the method reporting limit and its action level shall be set at a value 20% higher than the method reporting limit if the chemical's daily concentration is calculated under subsection (C)(3), the chemical is determined to be a Tier 2 chemical under subsections (C)(4) or (C)(6), and that chemical's projected daily concentration is determined to be at or between the chemical's corresponding health advisory – or proposed health advisory – and the method's reporting limit.
 - ii. Actual Daily Concentration. A chemical's alert level shall be set at the method reporting limit and its action level shall be set at a value 20% higher than the method reporting limit if the chemical's daily concentration is calculated under subsection (C)(5), the chemical is determined to be a Tier 2 chemical under subsections (C)(4) or (C)(6), and that chemical's actual daily concentration is determined to be at the method's reporting limit.
- ~~E. Pass-Through or Interference Chemical List. The AWPRA applicant shall analyze the chemical inventory list in subsection (C) in order to identify chemicals that are known to or expected to pass-through or interfere with AWWTF treatment processes. The AWPRA applicant shall generate a list to be used in subsection (F).~~
- ~~FD. Projected Tier 2 Chemical Treatment List. Based on the Tier 1 MCLs, the~~ Tier 2 chemicals identified in ~~subsection (D)(4), (5), (7) and (8), and the pass-through or interference chemical list generated in subsection (E), the AWPRA applicant shall select an optimized pilot and full-scale AWWTF treatment train and compile a list of chemicals that are projected to be treated by the selected treatment train.~~ this section, compile a list of Tier 2 chemicals that are projected to be treated by the proposed pilot treatment train described in R18-9-C815(B)(3)(b). During the pilot study, pursuant to R18-9-C815(B)(3)(g), the AWPRA applicant shall demonstrate chemical control of all chemicals on the Projected Tier 2 Chemical Treatment List through treatment at the pilot treatment train.
- ~~F. During the pilot study, pursuant to R18-9-C815, the AWPRA applicant shall demonstrate chemical control of all chemicals on the Projected Chemical Treatment List through treatment at the pilot treatment train.~~

~~2. All chemicals that are not able to be controlled through treatment at the pilot or full-scale AWWTF shall be controlled through measures adopted by the AWPRA in its enhanced source control program pursuant to R18-9-E824. The selected control measures shall be submitted to the Department along with the Enhanced Source Control Plan pursuant to R18-9-C816 and R18-9-C817.~~

~~G. An AWPRA shall maintain the lists of chemicals identified under subsections (C) and (E) and, if a new Tier 2 analysis conducted under subsection (D) results in a modification to any component of the AWP project, the AWPRA shall request an amendment to their AWP permit pursuant to R18-9-D821.~~

...

R18-9-E828. Pathogen Control

- A. The AWP project shall be designed and constructed to achieve pathogen reduction from raw wastewater to advanced treated water by following the prescribed methods to determine log reduction values for enteric viruses, Giardia lamblia cysts, and Cryptosporidium oocysts, also referred to collectively as reference pathogens, as outlined in either subsection (B) or (C) of this section.
- B. Standard Log Reduction. An AWPRA applicant choosing the standard log reduction approach shall design the AWP project to achieve the following cumulative validated treatment values ~~from raw wastewater to finished water~~:
1. 13 log reduction for enteric viruses,
 2. 10 log reduction for Giardia lamblia cysts, and
 3. 10 log reduction for Cryptosporidium oocysts.
- C. Site-Specific Log Reduction. An AWPRA applicant choosing a site-specific log reduction approach shall design the AWP project based on cumulative validated treatment values determined through reference pathogen monitoring pursuant to R18-9-C814(C)(3)(c) and the following:
1. Site-specific pathogen monitoring for the reference pathogens shall be conducted over a period of at least 24 consecutive months and shall include, at a minimum:
 - a. No Change
 - i. No Change
 - ii. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 2. No Change

3. ~~Sampling shall occur at a location in the water reclamation facility treatment train before the first disinfection treatment process and before treated wastewater transference to the AWWTF.~~ The monitoring location shall be as prescribed in R18-9-C814(C)(1).

- 4. No Change
- 5. No Change
- 6. No Change
- 7. No Change
- 8. No Change
 - a. No Change
 - b. No Change
 - c. No Change
- 9. No Change

D. No Change

- 1. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
- 2. No Change
- 3. No Change
 - a. No Change
 - b. No Change

E. No Change

- 1. No Change
- 2. No Change

R18-9-E829. Ongoing Monitoring Requirements

- A. The AWPRA shall perform ongoing monitoring in compliance with the requirements of this section, and shall:
- 1. No Change
 - 2. No Change
 - 3. No Change

4. ~~Perform additional sampling as necessary on the finished water prior to distribution pursuant to the requirements of the Safe Drinking Water Act.~~

B. No Change

C. No Change

1. No Change
2. No Change
 - a. No Change
 - b. No Change
3. No Change
4. No Change

D. Tier 2 Chemical Control Monitoring.

1. No Change
2. No Change
 - a. No Change
 - b. No Change
3. No Change
4. No Change
5. No Change
6. No Change
 - a. No Change
 - b. No Change
7. No Change
 - a. No Change
 - b. No Change
8. Advanced Response Procedure.
 - a. Under subsection (D)(7)(a) of this section, an AWPR shall:
 - i. No Change
 - ii. If the advanced treated water compliance location is the same as the entry point to the distribution system compliance location, report ~~Report~~ the detection in the applicable public water system's annual consumer confidence report.
 - b. No Change
 - i. No Change

ii. No Change

iii. No Change

iv. No Change

v. No Change

vi. No Change

9. No Change

a. No Change

b. No Change

E. No Change

F. No Change

1. No Change

2. No Change

a. No Change

b. No Change

3. No Change

4. No Change

a. No Change

b. No Change

5. No Change

G. No Change

H. No Change

1. No Change

a. No Change

b. No Change

2. No Change

3. No Change

I. No Change

1. No Change

2. No Change

R18-9-E830. Reporting Requirements

A. No Change

B. No Change

1. No Change
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change
 - g. No Change
 - h. No Change
 - i. No Change

3. No Change

C. No Change

1. No Change
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change

3. No Change

4. No Change

D. No Change

1. No Change
2. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change
 - e. No Change
 - f. No Change

3. No Change

E. Tier 3 Reporting. An AWPR shall report Tier 3 chemical monitoring results in the time and manner set forth in the AWP permit ~~and R18-9-E827.~~

F. No Change

1. No Change

2. No Change

a. No Change

b. No Change

c. No Change

d. No Change

e. No Change

G. No Change

H. No Change

R18-9-E831. Annual Report

A. An AWPR shall submit an annual report to the Department, ~~postmarked~~ no later than March 30th.

B. No Change

1. No Change

a. No Change

b. No Change

c. No Change

d. No Change

2. No Change

3. No Change

4. No Change

5. No Change

6. Enhanced source control components, pursuant to R18-9-E824, including:

a. No Change

b. No Change

c. No Change

d. No Change

e. No Change

f. No Change

- g. No Change
 - h. No Change
 - i. A list of any corrective or enforcement actions taken by the AWPR against an AWPR partner, and
 - j. No Change
7. The AWTF's TOC management annual approach. -This includes, if applicable, the results of the annual site-specific TOC approach, including the lower value of the two site-specific procedures, and the reestablished alert and action levels pursuant to R18-9-F834, and
- ~~8. Any other information necessary to assist the Department in assessing challenges to program implementation.~~
8. A summary of whether any updates are required pursuant to R18-9-E826(A)(2).
9. An updated operations plan pursuant to R18-9-F836, and
- ~~10. Any other information necessary to assist the Department in assessing challenges to program implementation.~~

PART F. TECHNICAL AND OPERATIONAL REQUIREMENTS

R18-9-F832. Minimum Design Requirements

- A. An AWPR shall meet the minimum design criteria in this section in designing and constructing all AWTF treatment trains ~~a pilot treatment train and a full-scale treatment train~~ under an AWP project.
- B. Pathogen Control.
- 1. Under an AWP project, treated wastewater shall receive continuous pathogen treatment prior to delivery ~~or distribution.~~
 - 2. No Change
 - 3. No Change
 - 4. No Change
 - 5. No Change
 - 6. No Change
 - 7. No Change
 - 8. No Change
 - 9. Each treatment process used to meet the requirements in this section shall have the pathogen log reduction values validated for each reference pathogen using one of the two methods listed in subsections (B)(10) and (11) below.
 - ~~a. An AWPR may use a validation study or a previously approved validation study report, in accordance with the protocol elements in subsection (B)(10) of this section.~~
 - ~~b. A validation study protocol shall be prepared by a licensed Arizona engineer with experience in drinking water or wastewater treatment, specifically in evaluating pathogen control in public water supplies.~~
 - 10. The validation study protocol shall. Presumptive pathogen removal credits based on existing validation studies.

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- a. Identify the treatment mechanism(s) of pathogen reduction by each treatment process. An AWPRA applicant may claim presumptive pathogen removal credits for a treatment process based on existing validation studies.
- b. Identify the pathogen(s) being addressed by the treatment process, or appropriate surrogate(s) for the pathogen(s), that are used in the validation study, which shall be the one(s) most resistant to the treatment mechanism(s). Processes claiming presumptive pathogen removal credits shall be confirmed through on-site demonstration during Piloting, Hybrid Pilot and Full-Scale Verification before it may be claimed.
- c. Ensure that the pathogen(s) or surrogate(s) for the pathogen(s) are present in the test water in concentrations sufficient to demonstrate a pathogen log reduction. Eligible Barriers.
 - i. A presumptive pathogen removal credit may be claimed under this subsection only for a treatment barrier whose pathogen removal performance is governed by a physically or mechanically predictable removal mechanism.
 - ii. A presumptive credit shall not be claimed for a biologically active or adsorptive treatment process whose pathogen removal performance is dependent on site-specific water chemistry, media condition, or biological acclimation, including but not limited to granular activated carbon and biologically active carbon processes.
 - iii. Pathogen removal credit for an excluded process shall be established through on-site validation under subsection (B)(11) below.
- d. Identify the factors that influence the pathogen reduction efficiency for the treatment mechanism(s) and includes at least Comparability Analysis. The AWPRA applicant shall include in the Pilot Study Plan or Hybrid Pilot and Full-Scale Verification Plan a comparability analysis demonstrating that the influent water conditions and operating conditions under which the existing validation study for that process was conducted are substantially similar to those encountered at the influent of the process evaluated.
 - i. Feed water characteristics such as temperature and pH;
 - ii. Hydraulic loading;
 - iii. Deterioration of components, and
 - iv. Integrity failure, and
- e. 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). The AWPRA applicant shall conduct direct pathogen sampling at the influent and effluent of the treatment barrier to demonstrate that the barrier achieves the presumptive credited log reduction value under influent water conditions and operating conditions. Where direct sampling for a target pathogen is not analytically feasible, a surrogate in place of direct pathogen sampling may be used if the surrogate is approved by the Department in the Pilot Study Plan or Hybrid Pilot -Full-Scale Verification Plan.

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- f. ~~Identify the validation methodology to demonstrate the pathogen log removal capability of the treatment process, which 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.~~The AWPRA applicant shall establish the relationship between the continuous surrogate or operational parameter monitored at the barrier and the demonstrated log reduction value, so that the credited performance can be monitored continuously during full-scale operation.
 - g. ~~Describe the method to collect and analyze data to formulate evidence-based conclusions.~~The demonstration performed during a Pilot or Hybrid Pilot and Full-Scale Verification study shall confirm that the process achieves the credited log reduction value across the operating conditions established in the existing validation study. If the demonstration operates the barrier within a narrower range than the validated envelope during the pilot study, the credit shall be bound to the demonstrated range.
 - h. ~~Describe the method to determine the alert and action levels and the operational monitoring and control strategy.~~The frequency and number of sampling events shall be sufficient during the pilot study to demonstrate the credited log reduction value and subject to Departmental approval.
 - i. ~~Describe the method to be used to calculate the log reduction value for the treatment process for each pathogen such that 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 alert and action levels, and~~If the pilot study fails to confirm the presumptive log removal credit, the AWPRA applicant may default to on-site validation studies or propose a lower, demonstrated log removal credit as supported by the existing validation study.
 - j. ~~Identify the circumstances that would require a re-validation or additional on-site validation.~~
11. ~~The treatment train shall be continuously operated to achieve the log reduction value targets using validated treatment log reduction values and must conform to the Operations Plan pursuant to R18-9-F836.~~On-Site Validation Studies.
- a. The on-site validation study protocol in subsection (B)(11)(b) below shall be prepared by a licensed Arizona engineer with experience in drinking water or wastewater treatment, specifically in evaluating pathogen control in public water supplies.
 - b. The studies shall:
 - i. Identify the treatment mechanism(s) of pathogen reduction by each treatment process.
 - ii. Identify the pathogen(s) being addressed by the treatment process, or appropriate surrogate(s) for the pathogen(s), that are used in the validation study, which shall be the one(s) most resistant to the treatment mechanism(s).
 - iii. Ensure that the pathogen(s) or surrogate(s) for the pathogen(s) are present in the test water in concentrations sufficient to demonstrate a pathogen log reduction.

- iv. Identify the factors that influence the pathogen reduction efficiency for the treatment mechanism(s) and include at least the feed water characteristics such as temperature and pH, the Hydraulic loading, the deterioration of components, and the integrity failure, and
 - v. 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).
 - vi. Identify the validation methodology to demonstrate the pathogen log removal capability of the treatment process, which 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.
 - vii. Describe the method to collect and analyze data to formulate evidence-based conclusions.
 - viii. Describe the method to determine the alert and action levels and the operational monitoring and control strategy.
 - ix. Describe the method to be used to calculate the log reduction value for the treatment process for each pathogen such that 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 alert and action levels, and
 - x. Identify the circumstances that would require a re-validation or additional on-site validation.
- c. Variances from the study protocols in this subsection are prohibited except when specifically authorized by the Department.
12. The treatment train shall include UV disinfection with a dose of at least 300 mJ per cm². The treatment train shall be continuously operated to achieve the log reduction value targets using validated treatment log reduction values and must conform to the Operations Plan pursuant to R18-9-F836.
13. The SCADA system shall identify process failure to meet the alert and action levels and shall automatically discontinue the delivery of water to any distribution system if the treatment train does not meet the minimum design log reduction value target. The treatment train shall include UV disinfection with a dose of at least 300 mJ per cm².
14. Treatment processes that are credited with pathogen log reductions must be continuously tracked with a SCADA system utilizing online monitoring for surrogates and/or operational parameters. The SCADA system shall identify process failure to meet the alert and action levels and shall automatically discontinue the delivery of advanced treated water if the treatment train does not meet the minimum design log reduction value target.
15. The treatment train shall be operated continuously in accordance with the Operations Plan pursuant to R18-9-F836 to achieve either the standard or site-specific pathogen reduction approaches pursuant to R18-9-E828. Treatment processes that are credited with pathogen log reductions must be continuously tracked with a SCADA system utilizing online monitoring for surrogates and/or operational parameters.

16. ~~Blending is not eligible to receive pathogen log reduction credit, nor validated treatment log reduction values. The treatment train shall be operated continuously in accordance with the Operations Plan pursuant to R18-9-F836 to achieve either the standard or site-specific pathogen reduction approaches pursuant to R18-9-E828.~~
17. ~~Blending is not eligible to receive pathogen log reduction credit, nor validated treatment log reduction values.~~

C. Chemical Control.

1. Under an AWP project, treated wastewater shall receive continuous chemical treatment prior to delivery ~~or distribution.~~
2. No Change:
 - a. No Change
 - b. No Change
3. No Change
 - a. No Change
 - b. No Change
 - c. No Change
 - d. No Change.
4. Each reverse osmosis membrane selected shall meet the criteria set forth in ASTM International, Designation D4194-23, "Standard Test Methods for Operating Characteristics of Reverse Osmosis and Nanofiltration Devices",
 - a. No Change
 - i. No Change
 - ii. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
5. No Change
 - a. No Change
 - b. No Change

D. Other Requirements.

1. No Change
2. No Change
 - a. No Change
 - b. No Change
 - i. No Change

- ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - vi. No Change
 - vii. No Change
- c. No Change
- d. No Change
 - i. No Change
 - ii. No Change
- 3. No Change
 - a. No Change
 - i. No Change
 - ii. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - c. No Change
- 4. No Change
 - a. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - vi. No Change
 - vii. No Change
 - viii. No Change
- 5. No Change
 - a. No Change

b. No Change

6. No Change

7. No Change

a. No Change

i. No Change

ii. No Change

iii. No Change

b. No Change

c. No Change

i. No Change

ii. No Change

iii. No Change

d. No Change

8. No Change

a. No Change

b. No Change

9. No Change

a. No Change

b. No Change

c. No Change

d. No Change

~~10. Method Detection Limit. When there is no reliable analytical method that is technically feasible to measure a contaminant at an established health advisory concentration pursuant to R18-9-E826(D), the health advisory value shall be set at the lowest Method Detection Limit of the corresponding and most sensitive EPA approved method.~~

E. An AWPRA shall meet the following minimum design criteria in designing and operating a full-scale water reclamation facility that delivers treated wastewater to an AWTF:

1. No Change

2. No Change

a. No Change

b. No Change

c. No Change

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3. An AWPRA water reclamation facility shall meet a minimum solids retention time (SRT) of 15 days. A reduction in SRT may be requested and approved by the Department if wastewater characterization demonstrates that over all seasons (represented by 12 monthly values) the proposed SRT is consistent with nitrogen reduction and ~~COCs~~ constituents of concern.
4. No Change
5. No Change

~~F. In addition to the requirements of this section, treatment process configurations shall be designed using good engineering practices. Treatment process configurations shall be approved if the AWPRA applicant can demonstrate that the treatment process configuration meets or exceeds the minimum design criteria in this section.~~

- ~~1. ADEQ shall develop and make available guidance on designing treatment process configurations.~~
- ~~2. Treatment process configurations designed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.~~

Pipeline Conveyances of Treated Wastewater.

1. Applicability. An AWPRA constructing a pipeline conveyance, whether new or a replacement of an existing pipeline, shall meet the requirements of subsection (D)(10).
2. A treated wastewater conveyance system shall be designed and constructed using industry best practices and standards.
3. The pipeline conveyance system shall be designed and constructed in a manner that:
 - a. Prohibits treated wastewater from contaminating a potable water system;
 - b. Assures system structural integrity is maintained; and
 - c. Is able to be inspected, maintained and tested regularly.
4. A pipeline conveyance of treated wastewater may utilize gravity or pressure.
 - a. Pressure Lines. Pressure lines shall be designed to withstand a pressure of 50 pounds per square inch or more above the design working pressure for two hours and test upon completion to ensure no leakage.
 - b. Gravity Lines. Gravity lines shall be tested for leakage using method ASTM 1417.
5. The AWPRA shall conduct the following tests on the line before operation:
 - a. Perform a test on the total length of the sewer line for uniform slope by lamp lighting, remote camera or similar method approved by the Department, and record the results; and
 - b. Perform a deflection test of the total length of all sewer lines made of flexible materials to ensure that the installation meets or exceeds the manufacturer's recommendations and record the results; and
 - c. Perform a watertightness test by filling the manhole with water. The applicant shall ensure that the drop in water level following presoaking does not exceed 0.0034 of total manhole volume per hour;
 - d. Perform a negative air pressure testing using the method ASTM "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test, C1244-02e1 (2002) or a similar method approved by the Department.

6. If the design includes a force main, an AWPRA shall ensure the pipeline conveyance includes restrained joints or thrust blocks on force mains to accommodate water hammer, surge control, and to prevent excessive movement of the force main.
7. Scour and Bed Degradation. An AWPRA shall:
 - a. Place the lines at least 2 feet below the level of the 100-year storm scour depth and calculated 100-year bed degradation and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection; and
 - b. Ensure that sewer lines constructed in a floodway extend at least 10 feet beyond the boundary of the 100-year storm scouring.
8. Minimum Separation Distance for Pipeline Conveyances of Treated Wastewater. An AWPRA shall:
 - a. Locate a pipeline conveyance no closer than 50 feet from a drinking water well unless the pipeline conveyance is constructed as specified under subsection (F)(8)(c).
 - b. Locate a pipeline conveyance no closer than two feet vertically nor six feet horizontally from a potable water pipeline unless the pipeline conveyance is constructed as specified under subsection (F)(8)(c), and
 - c. Construct a pipeline conveyance that does not meet the minimum separation distances specified in subsections (F)(8)(a) and (F)(8)(b) by encasing the pipeline conveyance in at least six inches of concrete or using mechanical joint ductile iron pipe or other materials of equivalent or greater tensile and compressive strength at least 10 feet beyond any point on the pipeline conveyance within the specified minimum separation distance.
9. Pump Lift Stations. Pump Lift Stations conveying treated wastewater shall:
 - a. Be protected from physical damage from a 100-year flood event, and
 - b. Not be constructed in a lift station in a floodway, and
 - c. Be equipped with with at least two pumps, and
 - d. Include a standby power source and redundant level controls in the design that will provide immediate service and remain available for 24 hours per day if the main power source or controls fail, and
 - e. Be secured in a way that prevents tampering, and
 - f. Be affixed on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least one warning sign that includes the 24-hour emergency phone number of the owner or operator of the collection system.
- FG.** In addition to the requirements of this section, treatment process configurations shall be designed using good engineering practices. Treatment process configurations shall be approved if the AWPRA applicant can demonstrate that the treatment process configuration meets or exceeds the minimum design criteria in this section.
 1. ADEQ shall develop and make available guidance on designing treatment process configurations.
 2. Treatment process configurations designed in a manner consistent with the criteria contained in an applicable ADEQ guidance document shall be considered to have been conducted using good engineering practices.

R18-9-F833. Technical, Managerial, and Financial Demonstration

A. An AWPRA applicant shall submit the following to the Department as a demonstration of technical, managerial, and financial capacity:

1. No Change

a. No Change

b. No Change

i. No Change

iii.

ii. No Change

iv. No Change

v. No Change

vi. No Change

vii. No Change

c. No Change

i. No Change

ii. No Change

d. No Change

e. No Change

f. No Change

i. No Change

ii. No Change

2. Managerial Capacity. An AWPRA applicant's managerial demonstration shall include, but is not limited to:

a. No Change

i. No Change

ii. No Change

b. Information or copies of contractual agreements between AWPRA partners or any other entity associated with an AWP Project, including but not limited to:

i. No Change

ii. No Change

iii. No Change

iv. No Change

v. No Change

- vi. No Change
- vii. No Change
- viii. No Change
- ix. No Change
- x. No Change
- c. No Change
- d. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - vi. No Change
- e. No Change
 - i. No Change
 - ii. No Change
- 3. No Change
 - a. No Change
 - b. No Change
 - i. No Change
 - ii. No Change
 - iii. No Change
 - iv. No Change
 - v. No Change
 - c. No Change
 - d. No Change
 - e. No Change

B. No Change

- 1. No Change
- 2. No Change