

# Advanced Water Purification (AWP): Draft Rules

## Stakeholder Meeting

Groundwater Protection Section  
Water Quality Division  
August 1, 2024



Clean Air, Safe Water,  
Healthy Land for Everyone



# AWP Team



Randy Matas  
*Deputy Director*  
*ADEQ Water Quality Division*



Rhona Mallea  
*Project Manager*  
*ADEQ Water Quality Division*



Karthik Kumarasamy  
*Principal Engineer/  
Project Lead*  
*ADEQ Water Quality Division*



Shivani Shah  
*Environmental Engineer  
Specialist III*  
*Water Quality Division*



Jon Rezabek  
*Legal Specialist  
/Rule Writer*  
*Water Quality  
Division*



Natalie Kilker  
*Legal Specialist/  
Rule Writer*  
*Water Quality  
Division*



Nabila Nafsin  
*Environmental Engineer  
Specialist III*  
*Water Quality Division*



Linneth Lopez  
*Environmental  
Engineer  
Specialist III*  
*Water Quality Division*



Katy Napan  
*Environmental  
Engineer  
Specialist III*  
*Water Quality  
Division*



- AWP Background
- AWP Draft Rule
- Rulemaking Timeline
- Guidance Documents
- Next Steps
- Online Resources and Contacts
- Open Discussion

# Webinar Orientation

Muted

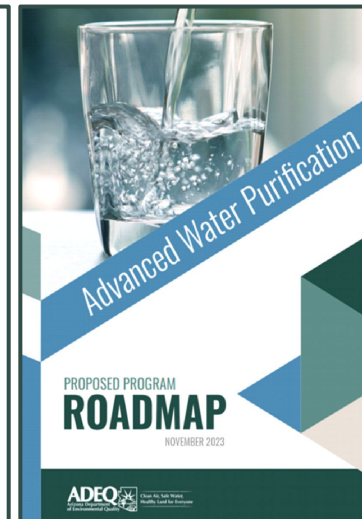
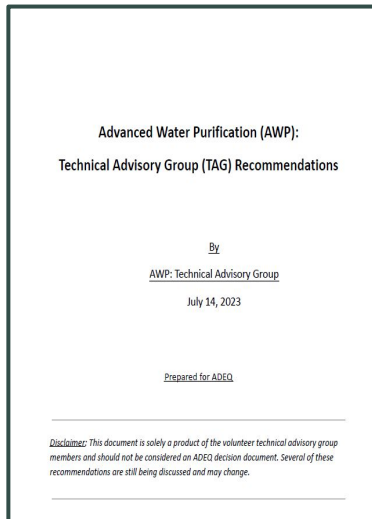
Not  
Recording

Questions?

Answers

The screenshot displays the GoToWebinar interface. At the top, there is a menu bar with 'File', 'View', and 'Help'. Below this is a 'Audio' panel with a 'Sound Check' indicator. The audio settings are set to 'Computer audio' and 'Phone call'. A red 'MUTED' indicator is visible next to the microphone selection. The microphone is set to 'Microphone (HD Webcam CS10)'. Below the microphone selection is a volume slider and a speaker selection dropdown set to 'Speakers (High Definition Aud...)'. Below the audio panel is a 'Questions' panel with a text input field containing '[Enter a question for staff]' and a 'Send' button. At the bottom of the interface, it says 'Multi sessions different registrants' and 'Webinar ID: 980-960-603'. The GoToWebinar logo is at the very bottom.

## ■ What have we done so far?





## Who is creating the rules?

- ADEQ

## What are the rules?

- Advanced Water Purification (AWP) Regulatory Program  
(formerly known as the Direct Potable Reuse (DPR) Regulatory Program)

## What do the rules consist of?

- Three Components:
  - Program Component
  - Licensing Time-Frames (LTF) Component
  - Fee Component

## Why are rules being made?

- ADEQ was mandated to develop an AWP / DPR regulatory program by the Arizona State Legislature in 2022
  - See A.R.S. § 49-211

## When will the rules be effective?

- Projected for the Winter of 2024 - 2025

## Where are the rules?

- Arizona Administrative Code:
  - Title 18 - Environmental Quality
  - Chapter 9 - Department of Environmental Quality - Water Pollution Control
  - Article 8 - New AWP Article

## How are the rules being made?

- Through a state rulemaking process, pursuant to A.R.S. § 41-1021 *et seq.*



- **Advanced Water Purification Responsible Agency (AWPRA) Formation - R18-9-B805**
  - The AWP Applicant is called an “Advanced Water Purification Responsible Agency” or “AWPRA”
  - Advanced Water Purification Responsible Agency (AWPRA) Partners
  - Joint Plan



- **Applicant Pathways**

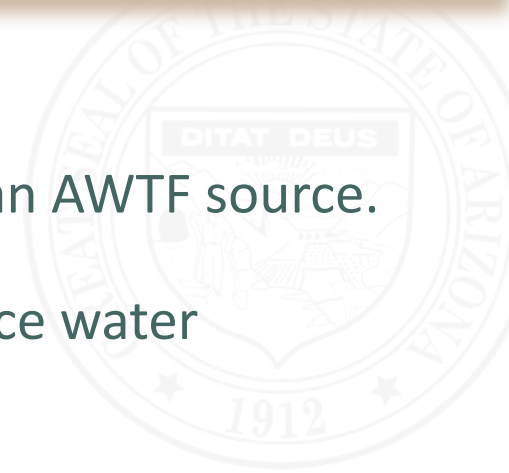
- WRFs subject NPP
- At least 1 WRF not subject to NPP

\* ISWC Plan, Pilot Study Plan, AWP Permit

\* Submit for review & comment required or not required



- Initial Source Water Characterization
  - Characterize treated wastewater used as an AWTF source.
  - Determine chemicals & pathogens in source water
    - ❖ Chemicals: 12 months
    - ❖ Pathogens: 24 months
      - » Standard (none)
      - » Site-Specific
  - Use data to determine control of chemicals & pathogens
    - ❖ source control
    - ❖ treatment train design



- Generally: sewershed analysis & control
- Generate list of Potentially Impactful Non-Domestic Dischargers (PINDDs)
  - chemicals used or stored onsite
- From PINDD list, generate an Impactful Non-Domestic Dischargers (INDDs) list
  - Significant Impact Analysis: load, concentration, dilution, treatment ability, health impact
  - Assign control measures for INDDs: limits, monitoring, outreach
- AWPRA must demonstrate local authority for a source control program.

- Tier 1 Chemical Control
  - Maximum Contaminant Levels
- Tier 2 Chemical Control;
  - AWP – Specific Chemicals
- Tier 3 Chemical Control;
  - Performance-Based Indicators



- **Pilot Study**
  - Performance test on proposed treatment train
  - Scaled Down or Full Scale
  - Minimum: 1 Year
- **Full Scale Verification**
  - If built to full-scale, full scale verification may occur instead of piloting
  - Minimum: 1 Year



- **AWP Permit**
  - All pre-application components submitted as part of AWP Permit application
  - Post-permit components submitted under a Compliance Schedule under the AWP Permit
- **Compliance Schedule**
  - Full Scale Verification
  - Distribution Authorization

- Log Reduction Approaches
  - Standard
    - ❖ 13 LRV Enteric Virus
    - ❖ 10 LRV Giardia
    - ❖ 10 LRV Crypto
  - Site-Specific
    - ❖ Sampling to determine pathogen load in pre-disinfected wastewater (minimum 2 years)
      - » WRF
    - ❖ Minimum LRVs:
      - » 8, 6, 5.5



- Treatment Processes Requirements:
  - Pathogen:
    - ❖ 1 filtration & 1 treatment process addressing each of the 3 reference pathogens
  - Chemical:
    - ❖ At least 3 diverse & separate treatment processes
    - ❖ Must have at least 1 AOP & 1 physical separation process
- TOC Removal
- Corrosion Control
- Nitrogen Management
- Failure Response Time
- Cross Connection
- WRF MDC



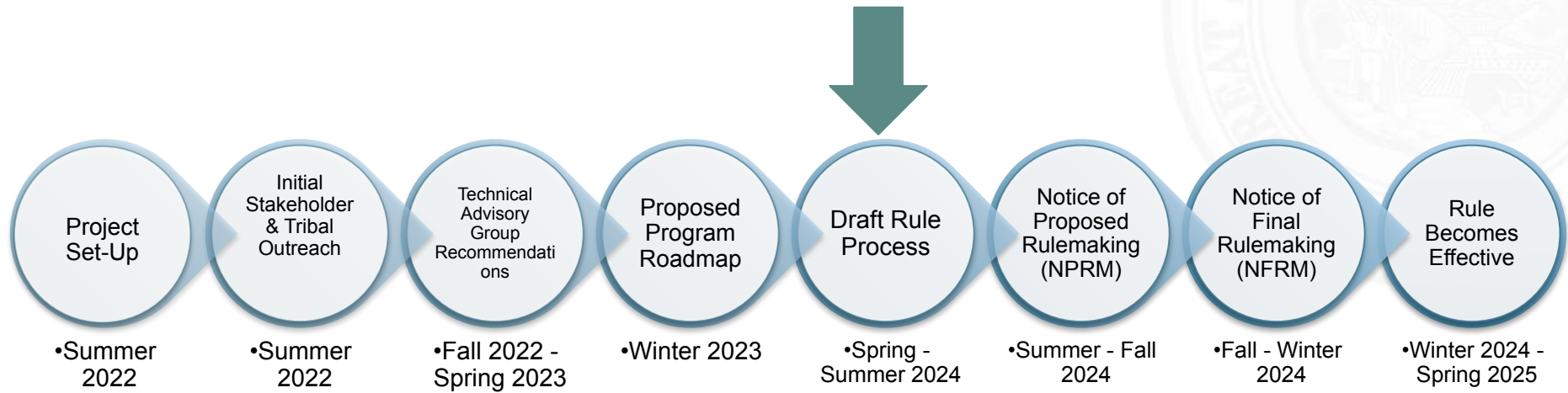
- Required TOC limit
  - Standard Approach
    - ❖ 2 mg/L in ATW
  - Site-Specific Approach
    - ❖ 2 procedures conducted annually
    - ❖ lesser of the 2 constitutes the site-specific limit



- **New Certification:**
  - Advanced Water Treatment certified operator or “AWT operator”
  - Requirements:
    - Passed AWT validated exam;
    - Meets AWT qualifying experience requirements; and
    - Is either:
      - ❖ 1) a Grade 3 or Grade 4 drinking water operator; or
      - ❖ 2) a Grade 4 wastewater treatment operator.



# AWP Rulemaking Critical Path



# Guidance Documents

- Enhanced Source Control
- Membrane Train Design
- Carbon Train Design
- Operations and Templates
- Water Reclamation Facility
- Corrosion Control

\*Incorporated by reference into the rule as Best Practices.

**AECOM**

**carollo**

**Geosyntec**  
consultants

 **Stantec**

**Hazen**

**Jacobs**

# Next Steps for Stakeholder Engagement



Draft the Notice of Proposed Rulemaking (NPRM)

Stakeholder and Tribal Listening Session to Review NPRM

File NPRM with the Secretary of State

Public Comment Period

Public Hearing

- **Rulemaking Webpage**

<https://azdeq.gov/awp-rulemaking>

- **Rulemaking Resources**

<https://old.azdeq.gov/node/9545>

- **AWP Roadmap**

<https://azdeq.gov/PR/AWP>

- **ADEQ Response to Comments on the Roadmap**

<https://static.azdeq.gov/wqd/awp/rtc.pdf>

# Contacts:

- Randall Matas, WQD Deputy Director [matas.randall@azdeq.gov](mailto:matas.randall@azdeq.gov)  
(602) 615-2306
- Rhona Mallea, AWP Project Manager [mallea.rhona@azdeq.gov](mailto:mallea.rhona@azdeq.gov)  
(602) 771-4492
- Jon Rezabek, AWP Rule Writer [rezabek.jon@azdeq.gov](mailto:rezabek.jon@azdeq.gov)  
(602) 771-8219
- Natalie Kilker, AWP Rule Writer [kilker.natalie@azdeq.gov](mailto:kilker.natalie@azdeq.gov)  
(602) 771-0358
- Karthik Kumarasamy, Project Lead, Subject Matter Expert  
[kumarasamy.karthik@azdeq.gov](mailto:kumarasamy.karthik@azdeq.gov)  
(602) 771-4391

Respond to Questions

Questions?



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