

Advanced Water Purification (AWP): Draft Rules

Tribal Listening Session

Groundwater Protection Section
Water Quality Division
July 31, 2024



Clean Air, Safe Water,
Healthy Land for Everyone



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

Webinar Orientation

Muted

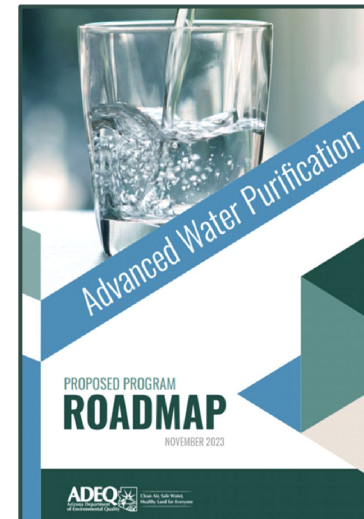
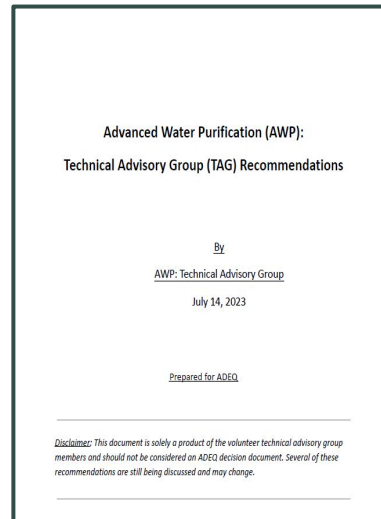
Not
Recording

Questions?

Answers

The screenshot displays the GoToWebinar interface. At the top, there is a menu bar with 'File', 'View', and 'Help'. Below this is the 'Audio' section, which includes a 'Sound Check' indicator. The audio settings are set to 'Computer audio' (selected) 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 settings is a volume slider and the speaker selection, which is set to 'Speakers (High Definition Aud...'. Below the audio settings is a 'Questions' section with a text input field containing the placeholder text '[Enter a question for staff]' and a 'Send' button. At the bottom of the interface, it displays '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?

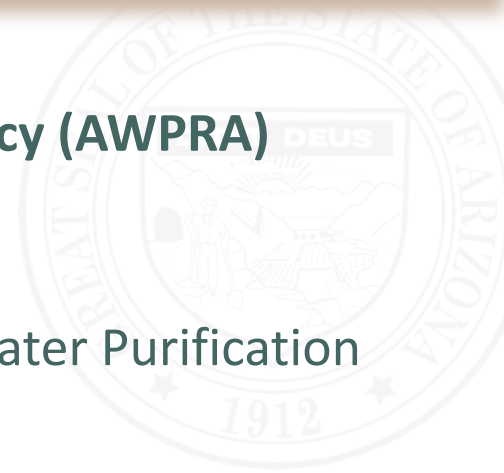
- Arizona Administrative Code:
 - Title 18 - Environmental Quality
 - Chapter 9 - Department of Environmental Quality - Water Pollution Control
 - Article 8 - New AWP Article

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**
 - The AWP Applicant is called an “Advanced Water Purification Responsible Agency” or “AWPRA”
 - 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 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

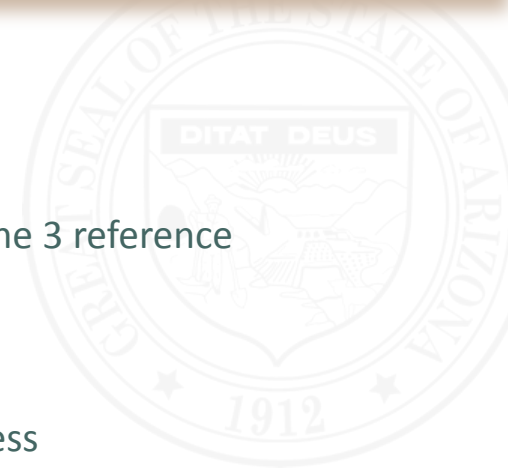


- **AWP Permit**
 - All pre-application components submitted as part of AWP Permit application
 - Post-permit components submitted under a Compliance Schedule under the AWP Permit
- **Compliance Schedule**
 - Full Scale Verification*
 - Distribution Authorization

- 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



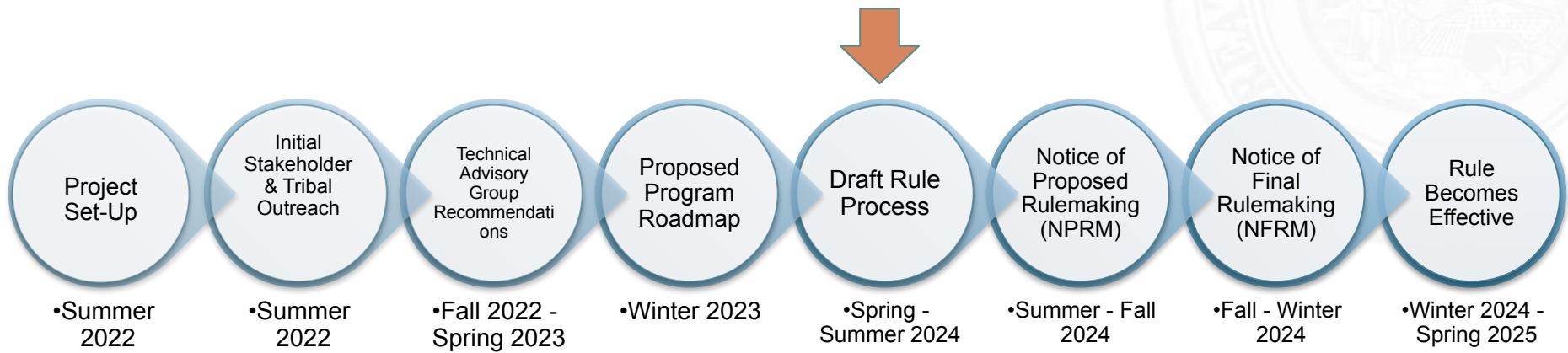
- Required TOC limit
 - Standard Approach
 - ❖ 2 mg/L in ATW
 - Site-Specific Approach
 - ❖ 2 procedures conducted annually
 - ❖ lesser of the 2 constitutes the site-specific limit



- 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



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

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>

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Respond to Questions

Questions?



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