



CALIFORNIA URBAN WATER AGENCIES



Building a Potable Water Operator Certification Framework



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Who is CUWA?

Population Served **26 million** (in 2013)

Retail Agencies:

- Alameda County Water District (ACWD)
- East Bay Municipal Utility District (EBMUD)
- Los Angeles Department of Water and Power (LADWP)

Retail/Wholesale Agencies:

- Contra Costa Water District (CCWD)
- City of San Diego (San Diego)
- San Francisco Public Utilities Commission (SFPUC)

Wholesale Agencies:

- Metropolitan Water District of Southern California (MWDSC)
- Santa Clara Valley Water District (SCVWD)
- San Diego County Water Authority (SDCWA)
- Zone 7 Water Agency (Zone 7)



CUWA's Mission



EBMUD Mokelumne Aqueduct

“To provide a forum for combining the expertise and resources of its member agencies to advance reliable high-quality water supplies for the State’s current and future urban water needs in a cost-effective manner for the public, the environment and the economy.”

Training of potable reuse operators is critical to maintain high-quality reuse supplies protective of public health.

Certification gives utilities, regulators and the public confidence that staff is qualified to operate potable reuse systems.

Existing exams do not cover advanced water treatment or potable reuse concerns

- More robust treatment train
- Unique O&M
- Enhanced risk

CALIFORNIA Water Boards

State Water Resources Control Board

EXAMINATION APPLICATION FOR WASTEWATER TREATMENT PLANT OPERATOR

USE THIS FORM ONLY FOR EXAMINATION APPLICATIONS

I. APPLICANT INFORMATION:

Name: Last _____ First: _____ Middle: _____
Mailing Address: _____
County: _____ Apt. # _____ City: _____ State: _____ Zip: _____
☐ Check box if your address has changed.
Telephone: Cell: () _____
Telephone: Home: () _____
Last four digits of your Social Security Number: _____
Email Address: _____
☐ Check box to receive public notices from the Wastewater Operator Certification Program.
Are you presently a certified Wastewater Treatment Plant Operator in California?
If YES, Grade: _____ Certificate Number: _____ ☐ YES ☐ NO
Employer Name: _____
Employer Address: _____
Employer Telephone: () _____ City: _____ State: _____ Zip: _____

II. EXAMINATION GRADE AND FEES:

(Check appropriate box)

GRADE I	GRADE II	GRADE III	GRADE IV	GRADE V
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
\$440	\$180	\$360	\$440	\$440

(With the exception of certain examination fees, fees are non-refundable. Please see instructions for more information.)

OFFICE USE ONLY:

Examination Date: _____
Total educational points: _____
Signature of Reviewer: _____
Approved/Denied for grade: _____
Reason for Denial: _____
Date: _____

Rev. 4/15

CUWA developed a white paper as a collaborative effort with several partners



- **Step 1:** Literature review and survey to establish understanding of existing programs and knowledge gaps
- **Step 2:** Facilitated workshop to gain consensus on a framework for potable reuse operator training and certification
- **Step 3:** Finalize white paper

Current Certification Practices



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Current CA Operator Certification Program requirements

- 1** Meet minimum experience and education requirements
- 2** Pass a written test
- 3** Apply for certification

Wastewater Operator Certification Program

1 track

5 levels

- 5 Grade levels
(treatment & collection)

Drinking Water Operator Certification Program

2 tracks

5 levels

- Inside the fence
- Outside the fence

- 5 T-grade levels (water treatment)
- 5 D-grade levels (distribution)

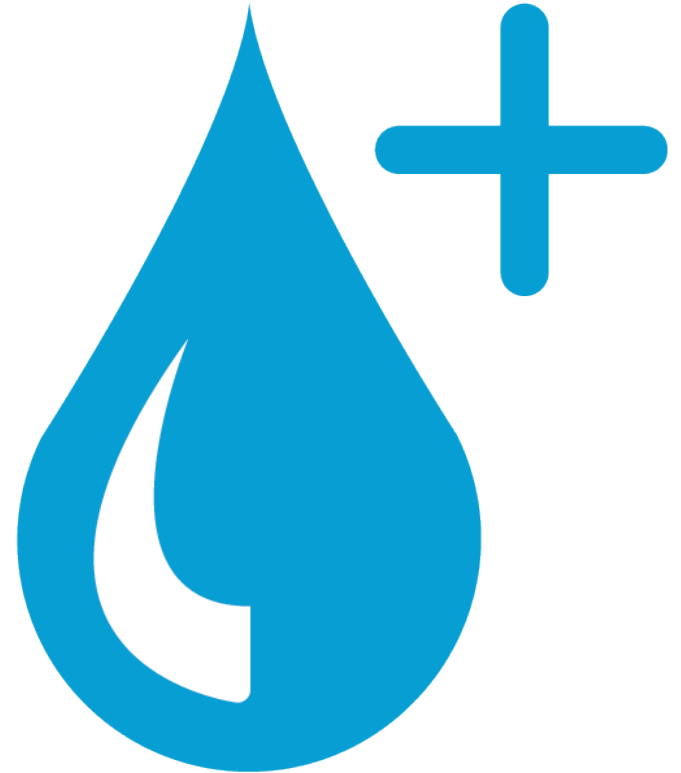
Gaps in Operator Skill Needs



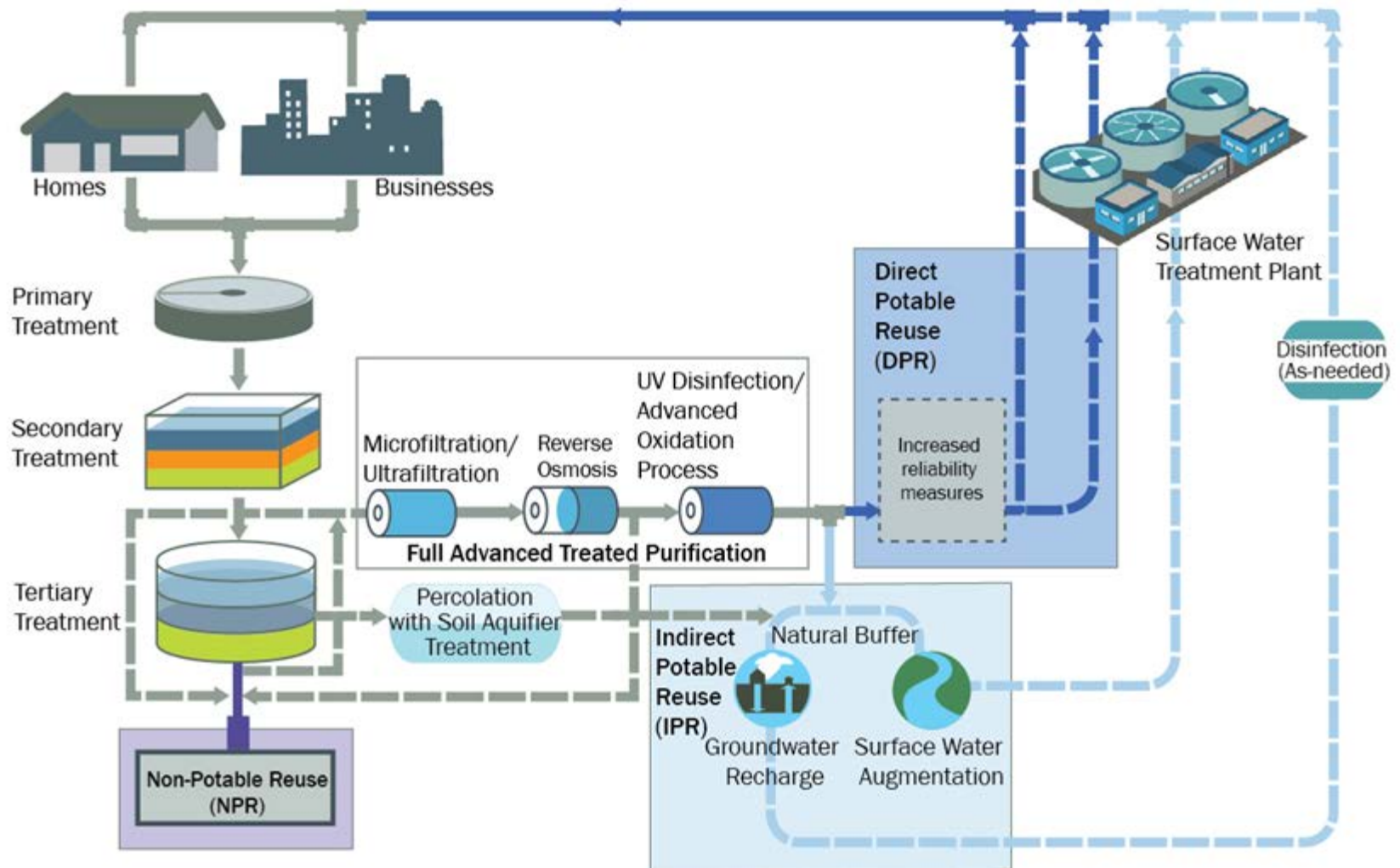
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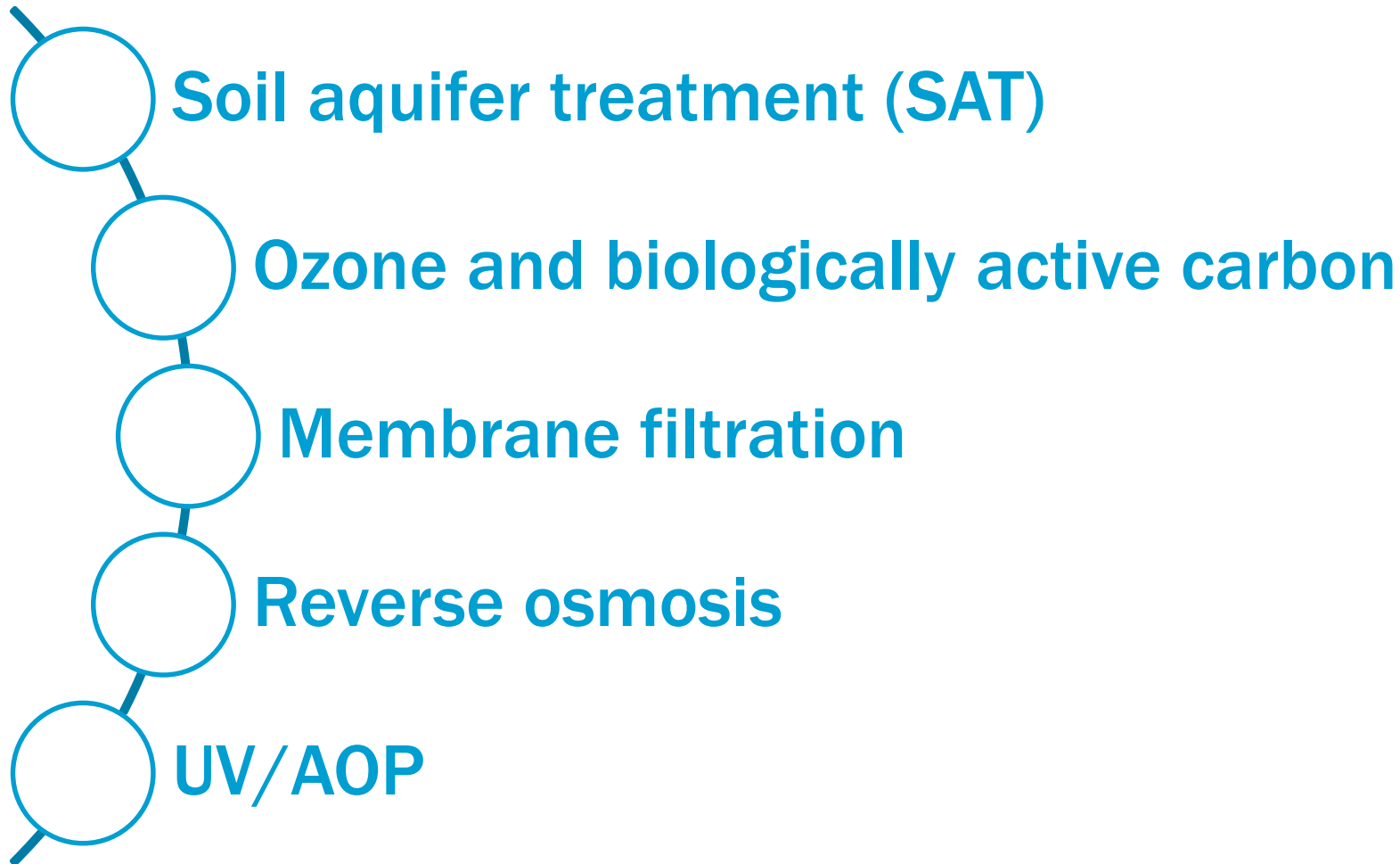
When permitted in California, potable reuse systems are expected to use robust advanced treatment trains with multiple unit processes



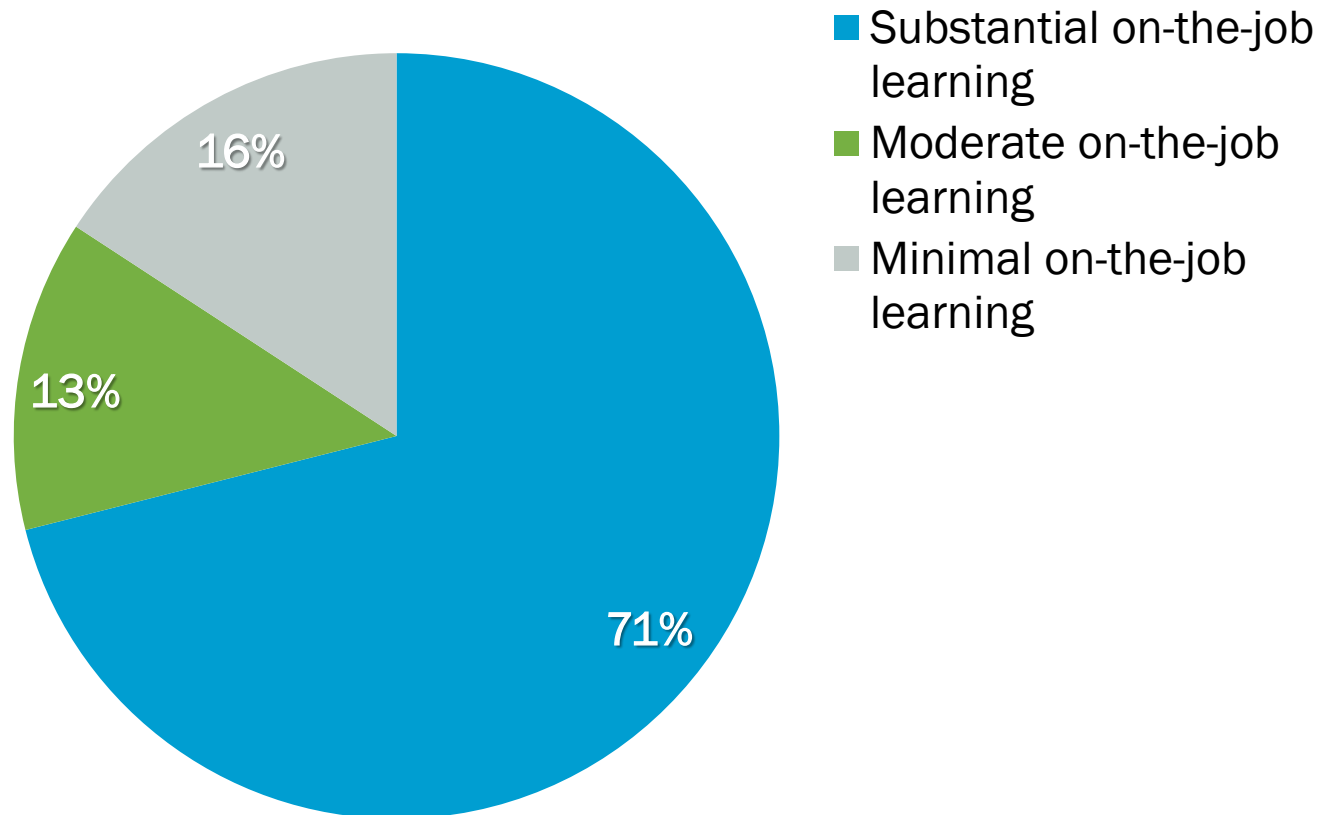
Levels of Water Reuse Treatment



Advanced water treatment processes used in potable reuse



On-the-job training is the primary means of gaining potable reuse advanced treatment system expertise



Source: WateReuse California Utility Survey, 2015

Possible Paths Forward



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A recent survey helped identify the gaps utilities see in operator certification with respect to potable reuse systems



70%

of survey respondents agree
that one certification process
for all potable reuse water
types should be developed

Source: WaterReuse California Utility Survey, 2015



1

Separate Potable Reuse Operator Certification

DW-OCP

- T1 • D1
- T2 • D2
- T3 • D3
- T4 • D4
- T5 • D5

PR-OCP

- PR1/AWT1
- PR2/AWT2
- PR3/AWT3
- ...

WW-OCP

- Grade I
- Grade II
- Grade III
- Grade IV
- Grade V



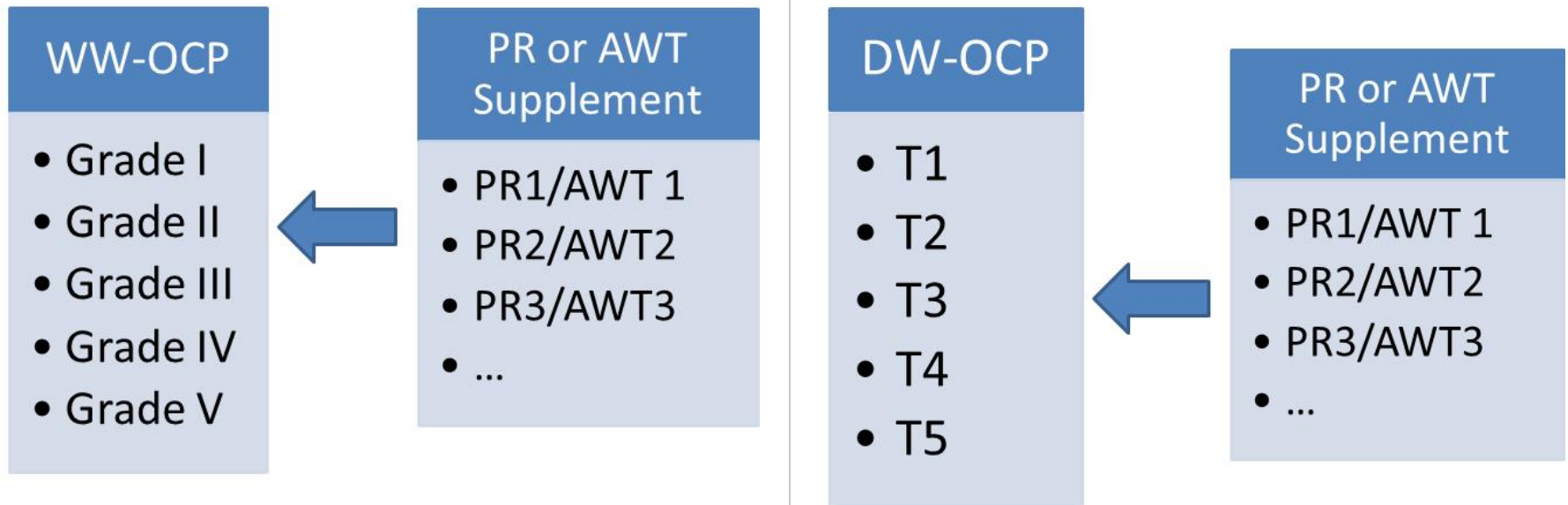
2 & 3

Potable Reuse or AWT Operator Certification Supplement

WW-OCP Supplement

OR

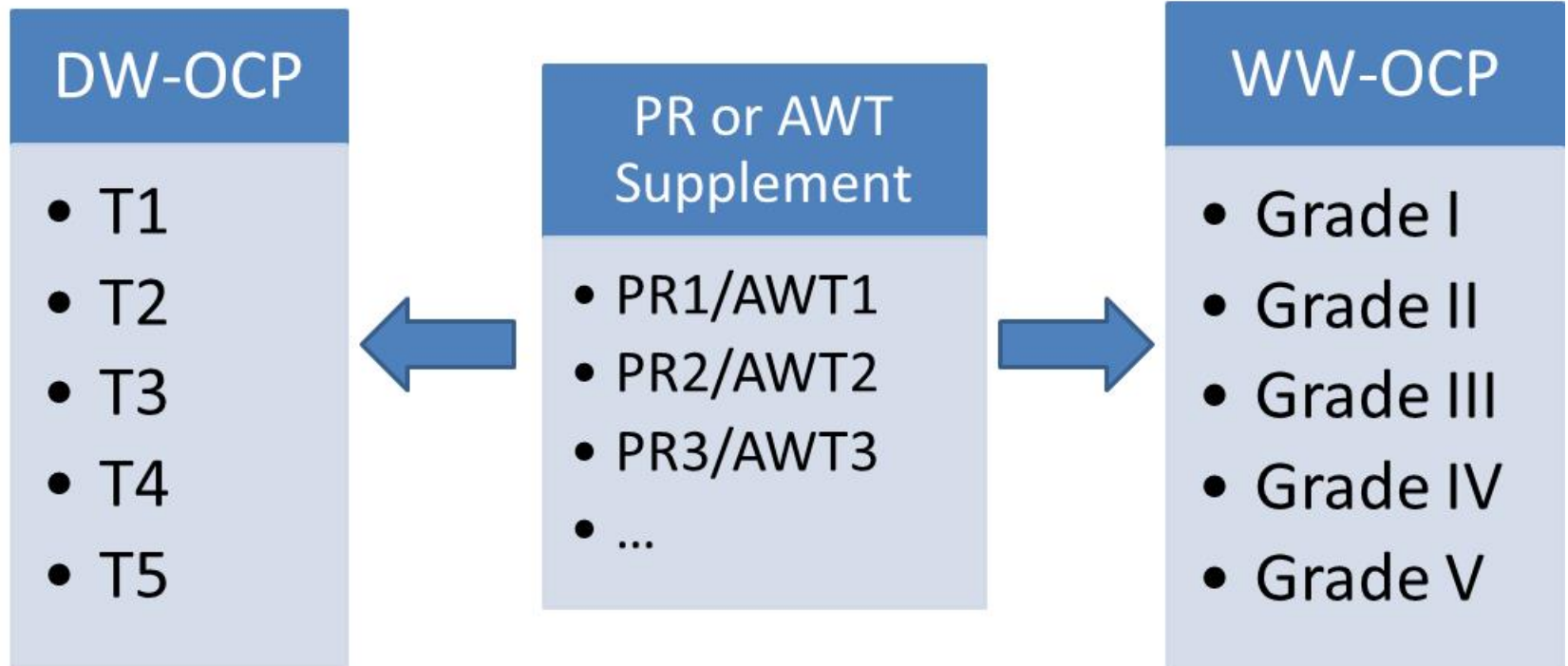
W-OCP Supplement





4

Potable Reuse or AWT Hybrid Supplement



Workshop Outcomes and Subsequent Framework



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Industry stakeholders agreed on Option #4



4

POTABLE REUSE
OR ADVANCED
WATER TREATMENT
SUPPLEMENT TO
EITHER LICENSE

Verifies that a certified water treatment or wastewater operator has a defined level of knowledge, skill and experience in advanced water treatment and related drinking water, wastewater, and potable reuse rules and practices.

Strategic Recommendations for an Industry-Supported Framework



Focus the certification program on advanced water treatment technologies used in purification of wastewater effluent for potable reuse and include risk management concepts



Give one test for each level of certification regardless of the candidate's qualifying background, and develop training to address any gaps in background knowledge or experience for water or wastewater candidates



Offer certification as an "add on" available to both wastewater and water treatment operators with an acceptable level of training and experience



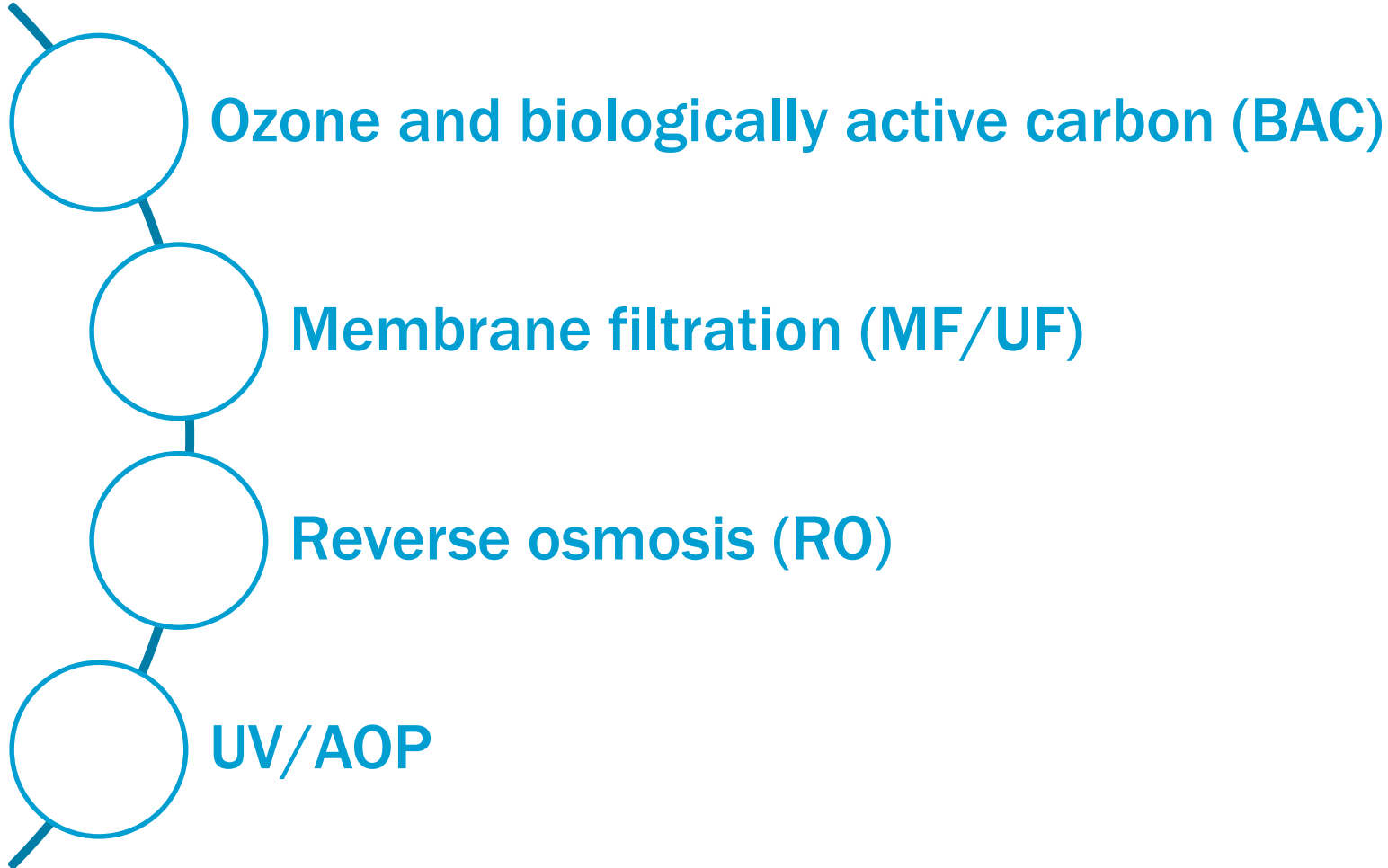
Provide an adequate population of certified operators from which utilities can hire new potable reuse treatment plant operators, and broad enough to draw a sufficiently large and viable testing population

Foundational Needs

- Fielding enough candidates
- Facilitating program development (i.e., speed)
- Acceptance by regulators/utilities/operators
- Testable
- Led by association(s)
- Financially viable



Focus on the Following Advanced Processes



Critical Unsettled Issues

1. An AWT Program or a Potable Reuse Program?
2. Who's going to develop it?*
3. Who's going to pay for it?
4. Sufficient training programs are necessary to ensure potential candidates have the knowledge they need to pass the test.
5. Legislation and/or an update to the operator certification regulations will likely be needed to address the proposed new certification requirements.



Next Steps

- Program development and implementation.
 - An entity or entities will need to commit to developing training and certification programs for an AWT or PR supplement.
 - AWWA CA-NV is leading an effort that CWEA has now engaged in as well.
 - Allows Office of Operator Certification to create a program.
- Curriculum development:
 - WaterReuse Research Foundation (WRRF 15-05) – Developing DPR curriculum is on-going.
- Continued engagement with the DDW and OOC on development of a regulatory framework for potable reuse.

Questions?

The white paper is available for download at the CUWA website (www.cuwa.org)



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