

# New Voluntary AWT Operator Certification — The AWTO™ Certification Program



**AWT OPERATOR  
CERTIFICATION™**



American Water Works Association  
**California-Nevada** Section



**CWEA**

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# Why a new certification?



# Current Water and Wastewater Certification Does Not Include “Advanced Treatment”

- More complex treatment train
- Unique O&M
- Potable reuse = enhanced risk

The form is titled "EXAMINATION APPLICATION FOR WASTEWATER TREATMENT PLANT OPERATOR OR OPERATOR IN CHARGE" and is issued by the "State Water Resources Control Board" and "California Water Boards". It includes a section for "APPLICANT INFORMATION" with fields for Name (Last, First, Middle), Mailing Address, County, Apt. #, City, State, Zip, Telephone (Cell, Home), Email Address, and Date of Birth. There are checkboxes for "Check box if your address has changed" and "Check box to receive public notices from the Wastewater Operator Certification Program". A section for "EXAMINATION GRADE AND FEES" includes a table for selecting a grade (I, II, III, IV, V) and corresponding fees (\$150, \$180, \$200, \$250, \$300). The form also has a section for "OFFICE USE ONLY" with fields for Examination Date, Total Instructional Points, Signature of Reviewer, Approval/Check for grade, Reason for Denial, and Date. A large diagonal watermark "FOR EXAMINATION ONLY" is visible across the form.

(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"/>
\$150	\$180	\$200	\$250	\$300

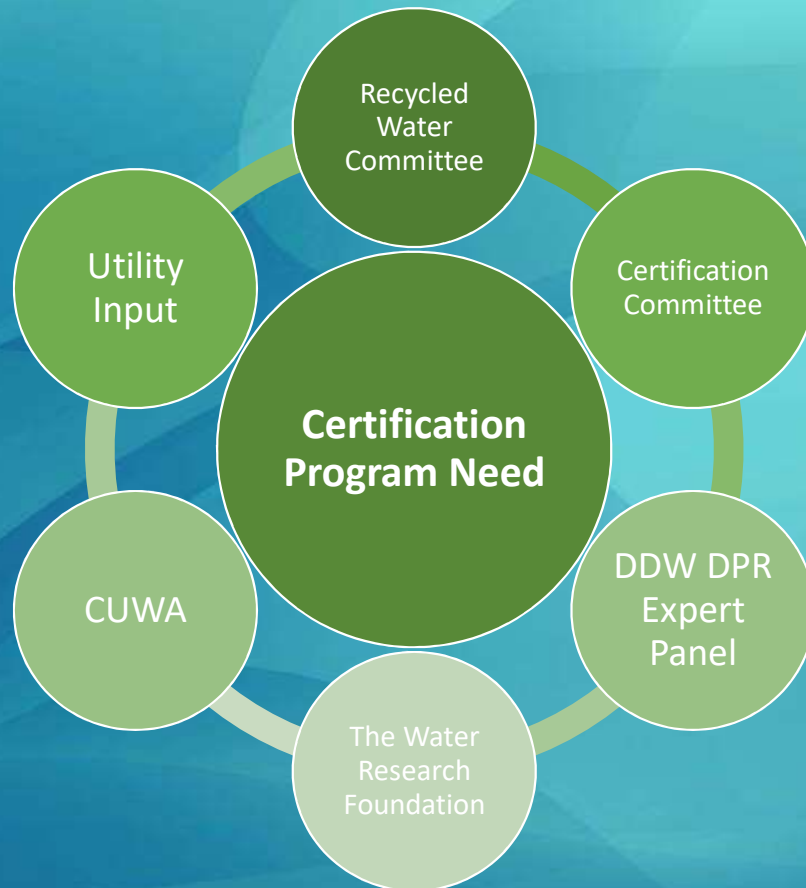
(With the exception of certain examination fees, fees are non-refundable. Please see instructions for more information.)

OFFICE USE ONLY:

Examination Date: \_\_\_\_\_  
Total Instructional Points: \_\_\_\_\_  
Signature of Reviewer: \_\_\_\_\_  
Approval/Check for grade: \_\_\_\_\_  
Reason for Denial: \_\_\_\_\_  
Date: \_\_\_\_\_

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# Confluence of Many Groups



- 2013: SB322 requires state to investigate DPR feasibility
- WaterReuse CA DPR initiative
- Various industry surveys
- Joint CA-NV Section AWWA/CWEA Committee embarks on program development





# A Primary Goal of the AWTOCC is a Certification Program that Works for All

A WHITE PAPER

## Potable Reuse Operator Training and Certification Framework

Revised February 2016



### table of contents //

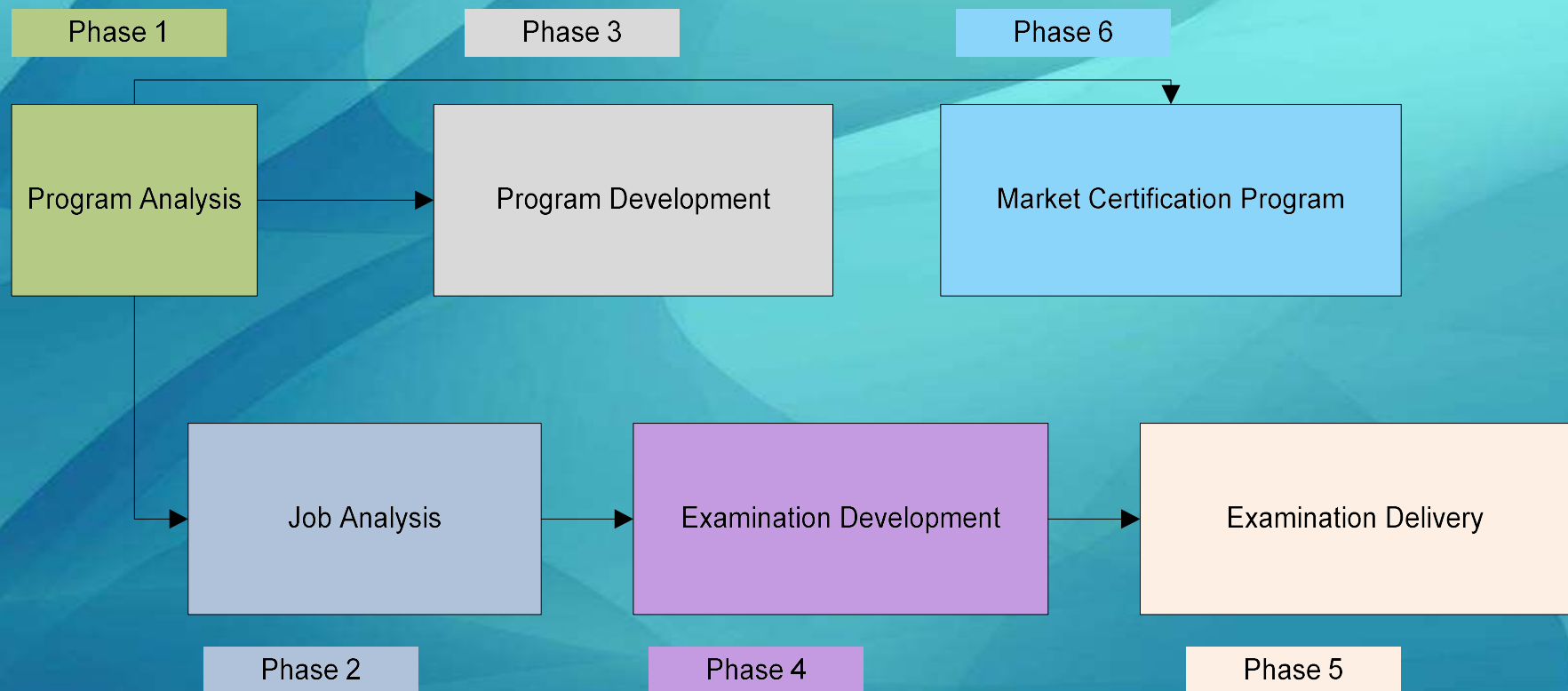
1. Executive Summary
2. Introduction
3. Operator Certification Survey
4. Current Operator Certification Practices
5. Existing Operator Training Opportunities
6. Advanced Water Treatment Processes Used in Potable Reuse
7. Gaps in AWT System Operator Skill Needs
8. Exploring Possible Paths Forward
9. CUWA Potable Reuse Operator Certification Workshop Outcomes
10. Conclusions & Recommendations
11. References
12. Acronyms



**CUWA Report  
2016**



# Developing a Certification Program Is Complicated, Rigorous and Proscribed



## Job Content Domains

Content Domain	AWT 3	AWT 4	AWT 5
Source Water	3%	4%	3%
Advanced Water Treatment Processes	40%	40%	24%
Advanced Water Treatment Support Processes	11%	14%	4%
Advanced Treated Water Management	3%	4%	3%
Operations and Maintenance	16%	18%	14%
Controls and Monitoring	6%	6%	13%
Laboratory	12%	7%	1%
Regulations and Reporting	2%	2%	10%
Safety	6%	6%	29%

# Task & Knowledge Statements

## Sample Task Statements

### Membranes

Recognize and correct problems in membrane systems

Calculate membrane surface area

Calculate daily membrane water production

### Advanced Oxidation

Calculate oxidant dosing

Measure oxidant residual

Track major process control inputs

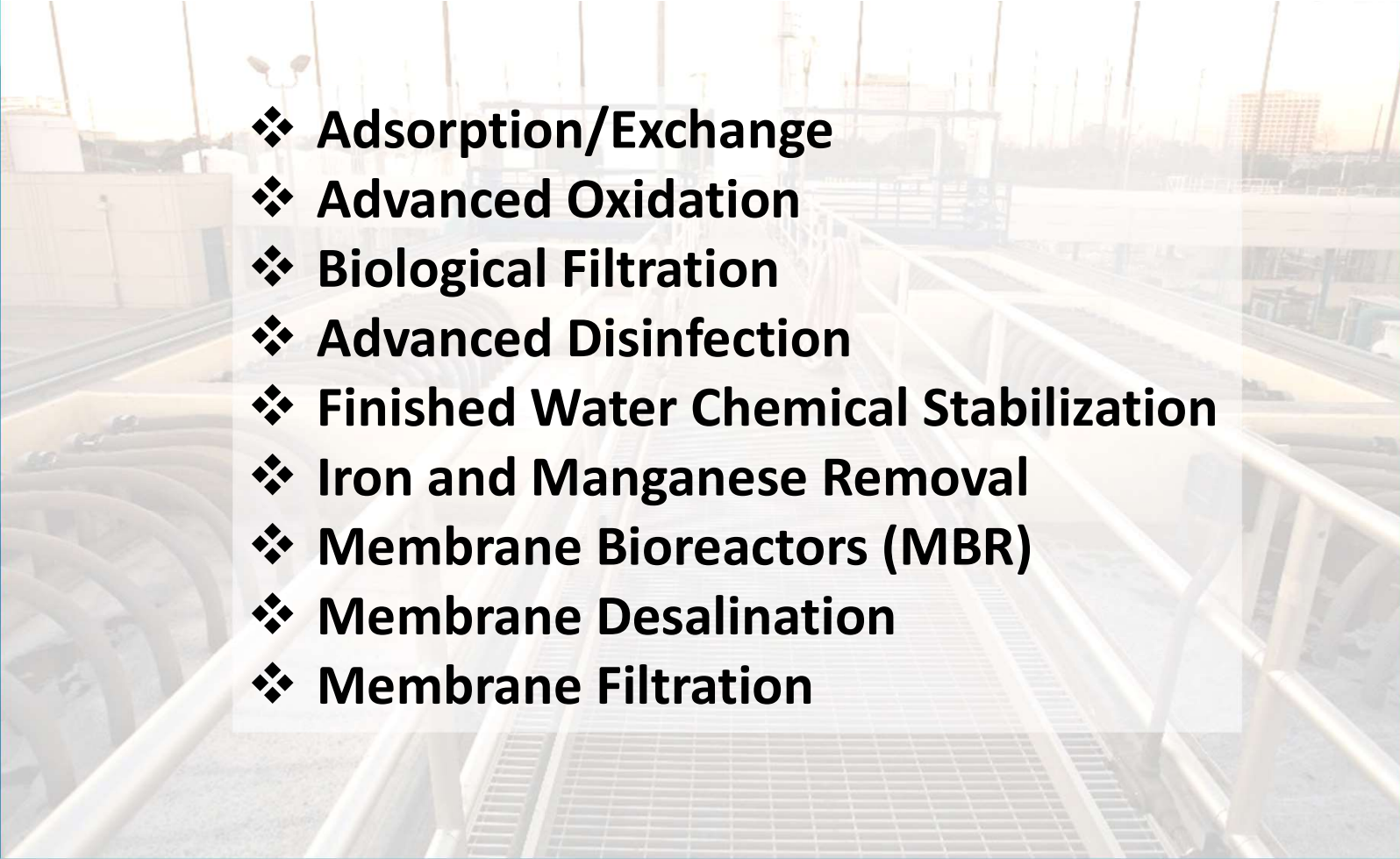




# What is Advanced Water Technology?



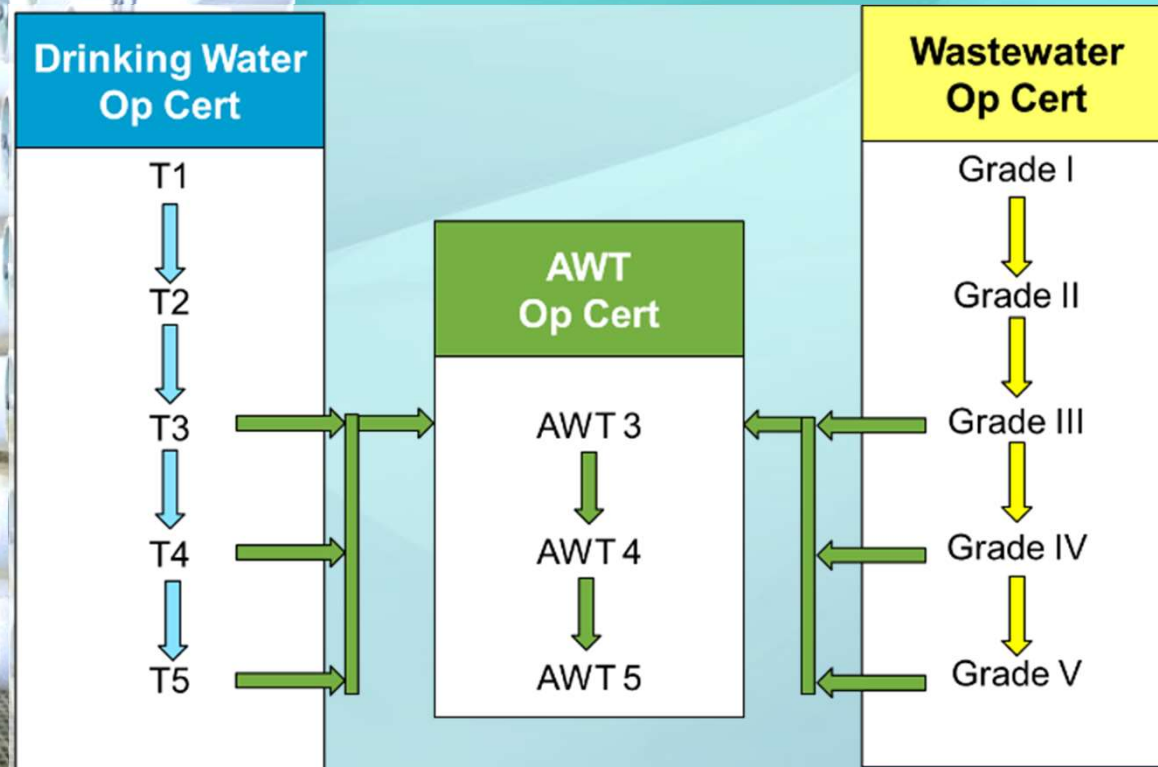
# What are Advanced Water Technologies?

- 
- ❖ **Adsorption/Exchange**
  - ❖ **Advanced Oxidation**
  - ❖ **Biological Filtration**
  - ❖ **Advanced Disinfection**
  - ❖ **Finished Water Chemical Stabilization**
  - ❖ **Iron and Manganese Removal**
  - ❖ **Membrane Bioreactors (MBR)**
  - ❖ **Membrane Desalination**
  - ❖ **Membrane Filtration**





# AWTO™ - Supplement to Existing Operator Certification



# Reasons to Get Certified





# Reasons to Get Certified



**1) Advance your water career**



**2) Agencies may require certification to work at a AWWTF**



**3) Corrects issue of fairness for operators**



**4) Increase AWWT training and networking**



# Supported by Water Agencies





**AWT OPERATOR  
CERTIFICATION™**



American Water Works Association  
**California-Nevada** Section



**CWEA**

**Becoming AWTOTM Certified**

***Advance Your Water Career***

***Apply now!***



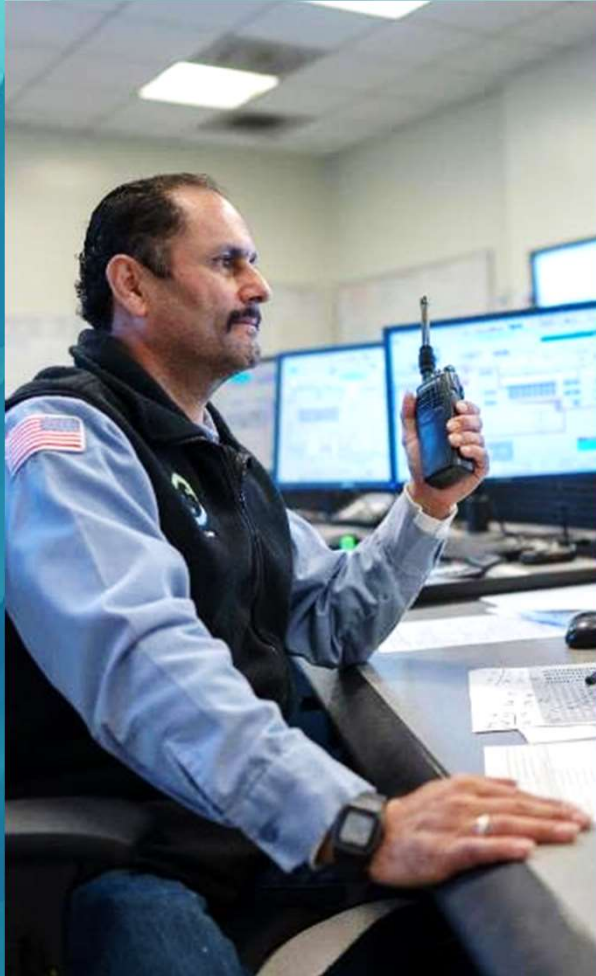


**Practice Your Skills at an AWTF**





# Potential Study Resources



Download the  
Candidate Handbook  
**AWTOperator.org**

1. AWTO Candidate Handbook
2. Reference List of Exam Items



# Potential Study Resources

- ❖ CA-NV AWWA and CWEA workshops
- ❖ SWMOA workshops / membrane certificate
- ❖ WRF (WE&RF) AWT training modules
- ❖ AWWA Manuals of Practice
- ❖ WEF Manuals of Practice
- ❖ CSUS Office of Water Programs
- ❖ Community College AWTF classes
- ❖ Manufacturer operations & training sessions
- ❖ Regulations, reporting and safety directions from Federal, State and local jurisdictions
- ❖ Private trainers





# CA-NV AWWA & CWEA AWT Workshops



[AWTOperator.org](http://AWTOperator.org)





## Exam Study Suggestions

- Study groups
- Flash cards
- Ask for help from Senior Operators
- Study, study, study





# Signing up for the Exam

**1) Download  
Candidate  
Handbook**

**AWTOperator.org**



# Signing up for the Exam

## 2) Remember the Minimum Qualifications

Grade	Certification	Experience <i>(can be obtained prior to exam)</i>	Exam
AWT3	State T3 or WW3 or higher	None	Pass AWT3 exam
AWT4	AWT3	2 years in one or more <b>AWT processes</b>	Pass AWT4 exam
AWT5	AWT4	3 years in one or more <b>AWT processes</b> , of which, 1 year must be in at least two AWT processes	Pass AWT5 exam



## Signing up for the Exam



3) Download the  
exam application

**AWTOperator.org** or **CA-NV-AWWA.org**





# Signing up for the Exam

## 4) Volunteer Administrator Review



## Signing up for the Exam

**5) The computerized testing center will contact you**



# Taking the Exam

The center will ask for ID and provide a list of center rules





# Taking the Exam



**Results are instant**



# Next Step > Next Exam?

**AWT3**

AWT Operator  
Grade 3

**AWT4**

AWT Operator  
Grade 4

**AWT5**

AWT Operator  
Grade 5

Wait  
**90**  
Days





**Did Not Pass**



# Did Not Pass



**Re-Apply**



## Renewing

*DETAILS  
COMING  
SOON*





# AWT OPERATOR CERTIFICATION



American Water Works Association

**California-Nevada** Section



**CWEA**

## AWTOperator.org

### **Candidate Services by CA-NV AWWA**

Steven Garner • [sgarner@ca-nv-awwa.org](mailto:sgarner@ca-nv-awwa.org)

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Alec Mackie • [amackie@cwea.org](mailto:amackie@cwea.org)

