

# AWWA CA/NV SECTION WATER USE EFFICIENCY TRAINING AND CERTIFICATION PROGRAM

## “NEED TO KNOW” CRITERIA FOR GRADE 2

The “Need to Know” criteria” presented below is based upon the general knowledge requirements expected for Grade 2 AWWA CA/NV Water Use Efficiency certification and focuses on water end uses and conservation measures and on regional water issues and resources.

### **Terms and definitions associated with the subjects discussed below.**

#### 1. Implementing Water Conservation Programs

- A Program Design
  - 1 Assessment of service area
  - 2 End water use by customer classification
  - 3 Cost effectiveness
- B Program Target(s)
  - 1 Identification of targets
  - 2 BMP targets
  - 3 Analysis of historical program activity
- C Implementation duration/schedule
- D Funding
  - 1 Sources
  - 2 Partnerships
- E Outreach

#### 2. Monitoring Water Conservation Program Effectiveness

- A Water conservation program saturation levels
- B Before and after water use patterns for participating customers
  - 1 Billing system data analysis
  - 2 Weather patterns/normalization
- C Short and long term monitoring of impacts
  - 1 Customer demands
  - 2 System water demands and peaking
- D Financial Budget Tracking
- E Program Measurement Options
  - 1 Water Savings
  - 2 Interventions (e.g., number of devices, fixtures, contacts)
  - 3 Look at results of specific programs and make recommendations
- F Methods for conducting water conservation measure cost-effectiveness calculations
- G Prioritize options based on decision-making criteria

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#### 3. Water Resources Planning

- A UWMP/Nevada Revised Statute 540 Water Resource Planning requirements
- B Conservation as a source of water supply
- C Drought/Shortage Preparedness
  - 1 Water shortage triggers
  - 2 Water shortage conditions
  - 3 Water shortage response measures and monitoring
  - 4 Demand reduction levels and monitoring
  - 5 Community outreach
  - 6 Public health and safety matters
  - 7 Water rates/reserve fund issues
- D Regulatory and Environmental Issues
- E Non-Potable Water
  - 1 Recycled
  - 2 Graywater
  - 3 Rain capture

#### 4. Water Rates

- A General understanding of rate making principles (e.g., AWWA, CUWCC BMPs)
- B Conservation-oriented water rate structures
  - 1 Block rates
  - 2 Budget based
  - 3 Drought rates
- C General changes on water use behavior assessment from specific conservation oriented rate policies
- D Rate making and rate adoption processes

#### 5. Landscape and Outdoor Measures

- A Soil, water and plant relationships
- B Landscape Audit Practices
- C Budget Formulas
- D Distribution Uniformity Calculations
- E Technology based measures
- F Agricultural water use

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#### 6. Commercial, industrial, and institutional uses and measures

- A Conventional, water saving and high efficiency fixture and appliance water usage
- B Leak detection, field tests and measurements
- C Indoor water conservation measures
  - Toilets: operation and hardware, sources of leaks, flush volume
  - 1 measurement, dye tests
  - 2 Shower and faucet standard flow rates, flow rate measurement
  - 3 Laundry water usage
  - 4 Dishwasher water usage
  - 5 Treatment/water purification
  - 6 Cooling towers
  - 7 Process water
- D Outdoor water conservation measures
  - 1 Pool-Spa and water features
  - 2 Outdoor cleaning (e.g., surfaces, vehicles)
  - 3 Water-efficient irrigation and landscape
- E Water use survey techniques, recommendations and incentives