



# American Water Works Association **Pacific Northwest** Section

## Course Description & Outline

### **Water Loss Prevention –**

### **The Next Phase**

### Training Coordination Committee – PNWS-AWWA

The workshop content will focus on the foundations of the AWWA Free Water Audit Software with specific updates and improvements in Version 6 (released December 2020). Presentations and exercises are designed around the water balance, components of non-revenue water (unbilled authorized consumption, apparent loss, real loss), and developing the non-volume inputs for the top-down water audit including system data and cost data. The Data Grading Matrix will be introduced, and a related exercise conducted, to orient the students to scoring data reliability. Documentation for the basis of audit input derivations and data grade selections will be discussed. A summary of each section of this course is provided below.

### **AWWA M36 Foundations, Data Sources & Developing the Inputs**

The foundation of the AWWA Free Water Audit Software (FWASv6) is the AWWA M36 Manual for Water Auditing and Loss Control Programs (Ed. 4) and the AWWA/IWA Water Balance. Attendees will learn the concept of this mass balance approach and an overview each of the components that make up the water balance.

### **AWWA Free Water Audit Software**

The FWASv6 is the industry standard tool for quantifying water loss and non-revenue water. Attendees will learn the background of the tool and the changes from the previous version 5 and the updates and improvements in Version 6. A demonstration will be provided giving attendees the first look at how to navigate the tool.

### **Common Exercise: Developing the Inputs**

After an introduction to the FWASv6 and basic M36 concepts, attendees will test their comprehension through a common exercise. In this common exercise, attendees will be tasked with applying what they have learned by compiling the input fields of FWASv6 by using a narrative and supporting data provided by the instructors.

### **Evaluating Data Validity in the AWWA Free Water Audit Software**

Water Audit outputs are generally analyzed as non-revenue water in terms of volume of water lost, value of the water lost each year, and the validity of the data going into the

Water Audit. This section will introduce the importance of data validity and the key improvements made in the FWASv6.

### Common Exercise: Data Validity Grades

After an introduction to the FWASv6 and basic concepts surrounding data validity and interactive data grading matrix, attendees will test their comprehension through a common exercise. In this common exercise, attendees will be tasked with applying what they have learned by selecting appropriate data validity grades in the FWASv6 by using a narrative and supporting data provided by the instructors.

### Level 1 Validation Background, Mock Level 1 Validation and Summary Review

Several studies conducted by the Water Research Foundation (WRF) have sought to understand the importance of Level 1 Validation – a third-party review process of water audits. Attendees will become more familiar with the WRF studies and witness a mock Level 1 Validation to gain a better understanding of the process.

The course will conclude with a high-level summary review.