

Customer Metering and Billing Operations for Optimized Revenue Capture

FINAL ASSESSMENT

The test pool is comprised of 20 to 30 questions, participants receive 10 questions that are randomly selected. They have three tries to pass the test and must have a 70% passing score to be able to print a certificate.

Question 01: Pick One

Apparent Losses are:

Points	Choices
0	Physical losses of water
10	Non-physical, or “paper,” losses

Question 02: Pick One

Erroneous billing adjustments are part of which of the below components of Apparent Losses?

Points	Choices
0	Unauthorized consumption
10	Systematic data handling error
0	Customer metering inaccuracies

Question 03: Pick One

Which of the below is a problem known to be caused by Apparent Losses?

Points	Choices
0	Revenue is recovered on all water consumed by customers
0	The water consumption of the entire customer population is metered with good accuracy
10	Some customers tamper with water meters and under-pay for water service – or pay nothing at all – creating an equity issue.

Question 04: Pick One

Apparent Losses should be valued at which of the below cost rates?

Points	Choices
0	Variable Production Cost
10	Customer Retail Unit Charge
0	Depreciation Cost
0	Capital Renewal Cost

Question 05: Pick One

The water audit for a water utility revealed that the Apparent Loss volume for last year was 3.0 million gallons. The utility uses a single-rate Customer Retail Unit Charge of \$4.95 per thousand gallons. Calculate the value of missing revenue due to Apparent Losses in the system and select the answer from the below choices.

Points	Choices
10	\$14,850
0	\$ 14.85
0	\$ 1,485
0	\$10,650

Question 06: Pick One

When assigning a cost to Apparent Losses which of the below are the only charges that apply?

Points	Choices
10	A volumetric charge representative of the amount of water consumed
0	A capital improvement charge
0	A fixed charge
0	Sewer and/or stormwater charges

Question 07: Pick One

TRUE or FALSE: Allowing many of your customer accounts to become “free” or “courtesy” accounts is good policy:

Points	Choices
0	True
10	False

Question 08: Pick One

Which of the below is NOT a good practice for proper customer water meter management

Points	Choices
0	Proper meter type selection and installation
0	Proper sizing of the meter
10	Allowing water meters to run to failure before they are replaced
0	Periodic maintenance and accuracy testing of water meters

Question 09: Pick One

AMI stands for:

Points	Choices
0	Automation Modernization Initiative
0	Autonomous Motor Invective
10	Advanced Metering Infrastructure

Question 10: Pick One

TRUE or FALSE: metering customer consumption is beneficial because it assists in attaching a price to the volume of water consumed by customers:

Points	Choices
10	True
0	False

Question 11: Pick One

What is the most common meter type in use in the United States?

Points	Choices
0	Compound Meter
10	Positive Displacement/Nutating Disc Meter
0	Ultrasonic Meter
0	Single Jet Meter

Question 12: Pick One

Which of the below types of meter applications has the greatest likelihood of being both over-sized and the wrong type of meter for the application?

Points	Choices
0	Positive Displacement Meters – 5/8 inch size
0	Compound Meters – 6-inch size
0	Single Jet Meters – 2-inch size
10	Traditional turbine Meters – 3-inch, 4-inch, or 6-inch size

Question 13: Pick One

TRUE or FALSE: it's acceptable to install a magnetic meter in the vertical position with the flow of water moving downward?

Points	Choices
0	True
10	False

Question 14: Pick One

Advanced Metering Infrastructure (AMI) has advantages over Automatic Meter Reading (AMR) because it uses _____ communications:

Points	Choices
0	Direct
0	One way
10	Two way
0	Dial-up

Question 15: Pick One

Which of the following is not an example of Systematic Data Handling Error in customer billing operations?

Points	Choices
0	Inaccurate estimates are applied when a meter reading cannot be obtained
0	Unstructured billing adjustment algorithms result in changing registered consumption to negative values
0	Some newly constructed buildings are overlooked for initiating a water billing account
10	Customer billing operations are audited carefully each year to ensure reliable billing operations and data integrity

Question 16: Pick One

When testing a water meter for accuracy after it has been in service for some number of years and has been pulled and brought to the test bench it is critical that the meter be first tested at the _____ flowrate:

Points	Choices
10	Low
0	Intermediate or medium
0	High

Question 17: Pick One

Which type of billing report lists the monthly totals of all customer consumption for each class of customer?

Points	Choices
0	Detailed listing
10	Summary listing

Question 18: Pick One

TRUE or FALSE: It's always more cost-effective to repair a meter than it is to replace it.

Points	Choices
0	True
10	False

Question 19: Pick One

TRUE or FALSE: It's impossible for unauthorized consumption to exist in small water utilities.

Points	Choices
0	True
10	False

Question 20: Pick One

Which of the following activities is not part of a generally recommended approach to the control of unauthorized consumption:

Points	Choices
0	Having strong policy that clearly defines the proper – and unauthorized uses – of water service to customers.
10	Providing customers with a permit to draw water from fire hydrants for any reason.
0	Having good detection capabilities to become aware of unauthorized consumption.
0	Having strong penalties to address and prevent unauthorized consumption.