

# **INFORMATION GUIDE CATALINA WATER & GAS SYSTEM MECHANIC KNOWLEDGE TEST - VERBAL**

**TEST #8180**

## INTRODUCTION

The **8180 Catalina Water & Gas System Mechanic Knowledge Test (Verbal)** was designed to assess technical knowledge necessary to perform the Catalina Water & Gas System Mechanic job. The test is designed for both internal and external candidates; therefore, it does not contain Southern California Edison specific processes and procedures. This guide contains strategies and other information to prepare for the test.

## VERBAL KNOWLEDGE TEST SESSION

During the verbal test session, a panel of test administrators, who are subject matter experts on the Catalina Water & Gas System Mechanic job, will ask you a series of questions. The administrators are looking for specific responses to the questions and will score your responses to the test questions using a standardized scoring key. The scores you will receive will correspond to the number of correct answers you provide. The question below demonstrates the format of the test question and scoring.

**Question: What are the first three letters of the alphabet?**

Correct responses:

A / B / C

**Scoring: You receive a point for each correct answer for a total of 3 points.**

Your test administrators will provide you with all the materials necessary to complete the test. It is important that you follow the directions of the administrators exactly.

During the testing session, you may **NOT** leave the testing area, talk to others, smoke, eat, or drink. Since this testing will take **approximately 60 minutes**, you should consider these factors before the test begins.

**All cellular/mobile phones, pagers or other electronic equipment will NOT be allowed in the testing area.**

## INFORMATION GUIDE FEEDBACK

At the end of this Guide you have been provided with an Information Guide Feedback page. If a procedure or policy has changed, making any part of this Guide incorrect, your feedback would be appreciated so that corrections can be made.

## **TEST TAKING STRATEGIES**

Your emotional and physical state during the test may determine whether you are prepared to do your best.

### **CONFIDENCE**

If you feel confident about your physical abilities, you may lose some of your anxiety. Think of the test as a way of demonstrating how much you know, the skills you can apply, your abilities, the problems you can solve, and your good judgment capabilities.

### **PUNCTUALITY**

Arrive early enough to feel relaxed and comfortable before the test battery begins.

### **CONCENTRATION**

Try to block out all distractions and concentrate only on the test. You will not only finish faster but you will reduce your chances of making careless mistakes. If the test area becomes noisy or there are other distractions or irregularities, mention them to the administrators immediately.

### **UNDERSTAND THE QUESTION**

Listen carefully to each of the questions and follow all directions provided by the administrators.

### **ANSWER ALL THE QUESTIONS**

Ensure your answers are precise, complete, unambiguous and succinct. Remember to give your best effort.

Remember the techniques described in this section are only suggestions. You should follow the methods that work best for you.

## **KNOWLEDGE AREAS**

The **8180 Catalina Water & Gas System Mechanic Knowledge Test (Verbal)** requires you to answer technical questions that assess specific technical knowledge required to perform the job. Below are the major job knowledge domains covered on the test. Study references can be found on pages 7 - 8. You can use this information to prepare for the test.

### **WATER SAMPLING**

Knowledge of potential contamination in groundwater; knowledge of proper sampling and preservation techniques; knowledge of function of chlorine injectors; knowledge of pump equipment; knowledge of ground water wells; and knowledge of chemical feed pumps.

### **PUMP FACILITIES**

Knowledge of water and gas flow; knowledge of head pressure; knowledge of pump equipment; and knowledge of ground water wells.

### **GENERAL DIGGING**

Knowledge of personal protective equipment and their use; knowledge of safe working practices; knowledge of units of measurements; ability to read prints, maps, piping prints, valves, and controls; and the ability to be proactive to prevent breakage, etc.

### **MAINS AND SERVICES**

Knowledge of water and gas flow; knowledge of pressurized systems; knowledge of valves; knowledge of personal protective equipment and their use; knowledge of safe working practices; knowledge of units of measurements; knowledge of pipe thread standards; knowledge of pipe size and measurement; knowledge of the operation of water meters; knowledge of different pipe materials; and knowledge of secondary containment.

### **RESERVIOR**

Knowledge of units of measurements; ability to discriminate between normal and abnormal operation; and the ability to determine water level.

### **PRESSURE REDUCING STATIONS**

Knowledge of water and gas flow; knowledge of pressurized systems; knowledge of head pressure; knowledge of valves; knowledge of safe working practices; knowledge of gauge

reading (pressure/temp); ability to discriminate between normal and abnormal operation; and the ability to read prints, maps, piping prints, valves, and controls.

### **TREATMENT FACILITIES**

Knowledge of pressurized systems; knowledge of function of chlorine injectors; knowledge of pump equipment; knowledge of valves; knowledge of chemical feed pumps; knowledge of personal protective equipment and their use; knowledge of safe working practices; knowledge of pipe size and measurement; knowledge of different pipe materials; knowledge of water and gas flow; ability to determine water level; knowledge of units of measurements; and the ability to identify whether an issue is electrical or mechanical.

### **GAS SAFETY**

Knowledge of water and gas flow; knowledge of personal protective equipment and their use; knowledge of safe working practices; ability to discriminate between normal and abnormal operation; the ability to read prints, maps, piping prints, valves, and controls.

## **SAMPLE QUESTIONS**

The following sample questions are provided to further illustrate the test format and content.

### **QUESTION #1:**

*What are the four main types of backflow prevention assemblies?*

#### **Correct answers:**

- Double Check Valve Backflow Prevention Assembly (DC)
- Reduced-Pressure Principle Backflow Prevention Assembly (RP)
- Air Gap (AG)
- Pressure vacuum breaker

### **QUESTION #2:**

*What are the three primary methods of disinfecting a water storage tank? What is the approximate disinfectant dose for each application?*

#### **Correct answers:**

- Full Volume Storage Method - 10 mg/L
- Surface Application Method - 200 mg/L
- Chlorinate and Fill Method - 50 mg/L

## **STUDY REFERENCES**

You may refer to the following references in preparation for your test.

### **WATER SAMPLING**

California Department of Public Health. California Water Works Standards. Title 22CCR, Subsection 64583. California Code of Regulations.

American Water Works Association (2003). AWWA Standard C654-03: Disinfection of Wells.

United States Environmental Protection Agency Office of Research and Development. Manual of Methods for Chemical Analysis of Water and Waste (EPA 625-6-74-003).

American Water Works Association (2014). AWWA Manuals of Water Supply Practices M12 (Vol. 12): Simplified Procedures for Water Examination.

Kerri, Kenneth D. (2012). Water Distribution System Operation and Maintenance: A field study training program. California State University, Sacramento Foundation.

Kerri, Kenneth D. (2008). Water Treatment Plant Operation: A field study training program, Volume 1, Sixth Edition. California State University, Sacramento Foundation.

### **PUMP FACILITIES**

American Water Works Association (2014). AWWA Manual M21 (Vol. 21): Groundwater. Chapter 6: Well Pumps and Pumping.

American Water Works Association (2014). AWWA Manual M21 (Vol. 21): Groundwater & Wells. Chapter 17: Water Well Pumps.

Kerri, Kenneth D. (2012). Water Distribution System Operation and Maintenance: A field study training program. California State University, Sacramento Foundation.

### **GENERAL DIGGING**

California Government Code. Division 5: Public Work and Public Purchases. Chapter 3.1: Protection of Underground Infrastructure (online resource).

United States Department of Labor. Occupational Safety & Health Administration (OSHA). Section: 2226. Excavations.

American Water Works Association (2006). AWWA Manual M55 (Vol. 55): PE Pipe Design and Installation: Chapter 8: Routine Operation and Maintenance.

### **MAINS AND SERVICES**

American Water Works Association. (2012). AWWA. Manual M6 (Vol. 6): Water Meter Selection, Installation, Testing, and Maintenance. Chapter 4: Meter installation.

American Water Works Association (2006). AWWA. Manual M55 (Vol.55): PE Pipe Design and Installation: Chapter 8: Installation

Kerri, Kenneth D. (2012). Water Distribution System Operation and Maintenance: A field study training program. California State University, Sacramento Foundation.

## **RESERVIOR**

American Water Works Association (2013). AWWA Manual M42 (Vol. 42): Steel Water Storage Tanks. Chapter 8: Routine Operation and Maintenance.

Kerri, Kenneth D. (2012). Water Distribution System Operation and Maintenance: A field study training program. California State University, Sacramento Foundation.

## **PRESSURE REDUCING STATIONS**

American Water Works Association (2006). AWWA Manual M44 (Vol. 44): Distribution Valves: Selection, Installation, Field Testing, and Maintenance. Chapter 2: Types and selection of valves.

American Water Works Association (2006). AWWA Manual M44 (Vol. 44): Distribution Valves: Selection, Installation, Field Testing, and Maintenance. Chapter 5: Operation and Maintenance.

## **TREATMENT FACILITIES**

American Water Works Association. (2012). AWWA Water Operator Field Guide.

Kerri, Kenneth D. (2008). Water Treatment Plant Operation: A field study training program, Volume 1, Sixth Edition. California State University, Sacramento Foundation.

## **GAS SAFETY**

Code of Federal Regulations (CFR). Title 49, Part 192, Subpart H. Customer Meters Service Regulators and Service Lines (online resource).

National Association of Regulatory Utility Commissioners. Training Guide for Operators of Small LP Gas Systems (online resource). Chapter 5: Proper Location and Design of Tanks, Regulators, and Meter Sets.





## **INFORMATION GUIDE FEEDBACK**

Please use this page to notify us of any changes in policies, procedures, or materials affecting this guide. Once completed, return to:

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Human Resources – Testing Operations  
6010 Irwindale Ave, Suite B  
Irwindale, CA 91706

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COMMENTS