

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 technical, job related questions pertaining to the Catalina Water & Gas System Mechanic position. 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 colors of the American flag?*

Correct responses:

Red, White, Blue

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 and the associated study references. You can use this information to prepare for the test.

THE MAJOR JOB DUTIES COVERED IN THE VERBAL TEST ARE:

Water Sampling

Pump Facilities

General Digging

Mains and Services

Reservoir

Pressure Reducing Stations

Treatment Facilities

Gas Safety

THE MAJOR JOB DUTIES COVERED IN THE VERBAL TEST ARE:

WATER, GAS, PUMPING, & DISTRIBUTION SYSTEMS

Knowledge of: water & gas flow, potential contamination in groundwater, pressurized systems, head pressure, the operation of water meters, proper sampling and preservation techniques, the function of chlorine injectors, and pump equipment.

SAFETY & WASTE DISPOSAL

Knowledge of: Knowledge of personal protective equipment and their use, safe working practices, rigging, hazardous waste, sign readings, compliance, and secondary containment.

MATH & MEASUREMENTS

Knowledge of: basic math skills, valves, gauge reading (pressure/temp), units of measurements, and alignment

PIPING

Knowledge of pipe thread standards and pipe size and measurement.

GENERAL ABILITY

Ability to: discriminate between normal and abnormal operation, read prints, maps, piping prints, valves, and controls, determine water level, identify whether issue is electrical or mechanical, be proactive to prevent breakage etc., prioritize, multitask, work effectively with other disciplines (e.g, ICE Tech), interact with other personnel (e.g., supervisors, SSID, contractors), and be self-motivated.

SKILLS

Strong judgment skills, time management skills, and verbal and written communication skills.

TOOLS

Ability to use: wrenches, sockets/ratchets, torque wrenches, screw drivers, hammers, chisels, pneumatic tools, impact air tools, hacksaws, cutters, and hand-grinders.

SOFTWARE/FORMS

Ability to use: complete a Tailboard form, complete Mechanic diaries/logs, and use the computer.

SAMPLE QUESTIONS

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

QUESTION #1:

What are the three 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)

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 verbal test.

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

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

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.

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

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

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.

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



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

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

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

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

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

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.

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).

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



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
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COMMENTS