

STUDY GUIDE

SUBSTATION ELECTRICIAN

TEST #2833

INTRODUCTION

The **2833 Substation Electrician Test** is a job knowledge test designed to cover the major knowledge areas necessary to perform the job. In order to be eligible to take this test, candidates must have successfully graduated from the Substation Apprentice Electrician Program at Southern California Edison. This Guide contains strategies to use for taking tests and a study outline, which includes knowledge categories, major job activities, and study references.

TEST SESSION

It is important that you follow the directions of the Test Administrator exactly. If you have any questions about the testing session, be sure to ask the Test Administrator before the testing begins. During testing, you may NOT leave the room, talk, smoke, eat, or drink. Since some tests take several hours, 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.

All questions on this test are multiple-choice or hot spot questions. Multiple choice questions have four possible answers. Hot spot questions have a picture, and you must click the correct spot on the picture to answer the question. All knowledge tests will be taken on the computer. For more information on this, please see the next section of this study guide on Computer Based Testing.

The test has a three hour time limit.

You will receive a Test Comment form so that you can make comments about test questions. Write any comments you have and turn it in with your test when you are done.

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

INTRODUCTION

The **2833 Substation Electrician Test** is a job knowledge test designed to cover the major knowledge areas necessary to perform the job. In order to be eligible to take this test, candidates must have successfully graduated from the Substation Apprentice Electrician Program at Southern California Edison. This Guide contains strategies to use for taking tests and a study outline, which includes knowledge categories, major job activities, and study references.

CONFIDENCE

If you feel confident about passing the test, 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, the problems you can solve, and your good judgment capabilities.

PUNCTUALITY

Arrive early enough to feel relaxed and comfortable before the test 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 possible, select a seat away from others who might be distracting. If lighting in the room is poor, sit under a light fixture. If the test room becomes noisy or there are other distractions or irregularities, mention them to the Test Administrator immediately.

BUDGET YOUR TIMES

Pace yourself carefully to ensure that you will have enough time to complete all items and review your answers.

READ CRITICALLY

Read all directions and questions carefully. Even though the first or second answer choice looks good, be sure to read all the choices before selecting your answer.

MAKE EDUCATED GUESSES

Make an educated guess if you do not know the answer or if you are unsure of it.

CHANGING ANSWERS

If you need to change an answer when testing on a computer, be sure that the new answer is selected instead of the old one.

RETURN TO DIFFICULT QUESTIONS

If particular questions seem difficult to understand, make a note of them, continue with the test and return to them later.

DOUBLE CHECK MATH CALCULATIONS

Use scratch paper to double check your mathematical calculations.

REVIEW

If time permits, review your answers. Do the questions you skipped previously. When testing on a computer, make sure each multiple choice question has a dot next to the correct answer.

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

JOB KNOWLEDGE CATEGORIES AND STUDY REFERENCES

Below are the major job knowledge areas (topics) covered on the **2833 Substation Electrician Test** and the associated study references. Listed next to each knowledge category is the number of items on the exam that will measure that topic. You can use this information to guide your studying. Some exams also contain additional pretest items. Pretest items will appear just like all of the other items on your exam, but they will not affect your score. They are an essential part of ensuring the **2833 Substation Electrician Test** remains relevant to successful performance of the job.

There are a total of 82 items on **the 2833 Substation Electrician Test** and the passing score is 70%.

ACTING OPERATOR KNOWLEDGE (8 ITEMS)

Knowledge of policies and procedures for clearances on circuit breakers; knowledge of the principles of disconnects and transformers; knowledge of switching procedures and techniques; knowledge of secondary switching devices.

References for Acting Operator Knowledge

Operators Manual

Accident Prevention Manual

MAINTENANCE PROCEDURES (2 ITEMS)

Knowledge of the safe practices and procedures for hot washing.

References for Maintenance Procedures

Substation Operations and Maintenance Policy and Procedures Manual (SOM)

Accident Prevention Manual

RIGGING AND HEAVY EQUIPMENT (5 ITEMS)

Knowledge of the SCE safety procedures for operating grounding, rigging, and heavy equipment, including crane, hoist, derrick, ropes, and slings. Knowledge of knots appropriate for securing, rigging, and hoisting items, including knot strengths.

References for Rigging and Heavy Equipment

Accident Prevention Manual

Rigging Manual

BASIC TEST INSTRUCTIONS (10 ITEMS)

Knowledge of the equipment and practices for testing gas, circuit breakers, wires, and other components.

References for Basic Test Instruction:

Electricians Manual
Circuit Breaker Manual
LENS-CBA Software Manual
SF6 Reference Guide

OIL AND GAS HANDLING (7 ITEMS)

Knowledge of safe practices when handling gas; knowledge of the various types of oil including circuit breaker oil, and their associated equipment and properties; knowledge of the test procedures for gas and oil.

References for Oil and Gas Handling:

Electricians Manual
Substation Operations and Maintenance Policy and Procedures Manual (SOM)
SF6 Reference Guide

SUBSTATION EQUIPMENT (37 ITEMS)

Knowledge of the properties, operation, and associated symbols of various substation equipment including circuit breakers, transformers, vacuum gauges, batteries, motors and controllers, and voltage regulators.

References for Circuit Breakers:

Electricians Manual
Operators Manual
Substation Operations and Maintenance Policy and Procedures Manual (SOM)
Maintenance and Inspection Manual

SAFETY (13 ITEMS)

Knowledge of the various substation policies and practices including clearances, grounding, and working with energized equipment.

References for Safety:

Accident Prevention Manual

Grounding Manual

Operators Manual

Arc Flash Manual for Substations



STUDY GUIDE FEEDBACK

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

Southern California Edison - Human Resources – Assessment Programs G.O. 5, 1st Floor, 1515 Walnut Grove Ave., Rosemead, CA 91770

2833 Substation Electrician Test

If you have encountered any discrepancies in the test, please provide an explanation and the page number below.

COMMENTS