

**COMPETENCY MODEL FOR
ELECTRICAL REPAIRER (2020)
CLASS CODE 3853**

The following competencies have been identified as those that best separate superior from satisfactory job performance in the class of **ELECTRICAL REPAIRER**. (Numbers refer to the order of competencies in the Competency Bank.)

- 8. Safety Focus
- 26. Electrical Understanding
- 33. Interpersonal Skills
- 35. Teamwork
- 40. Credibility
- 43. Follow Oral Directions
- 44. Follow Written Directions

On the following pages are descriptions of each competency, including a definition, the level of the competency required for the class (*italicized*, **bolded**, and underlined), examples of behavioral indicators, and satisfactory and superior performance level.

8. SAFETY FOCUS – Performs work in a way that minimizes risk of injury to self or others.

Level of Competency Required by Job:

Level 1: Maintain awareness of unsafe conditions and actions to avoid injury.

Level 2: Follow safety rules/procedures; avoid known hazards in the work environment.

Level 3: Carefully follow safety rules and procedures and consistently use all necessary safety equipment.

Examples of Behavioral Indicators:

- Wears seat belt.
- Ensures safe physical work environment by taking actions such as eliminating unstable stacks of materials, closing drawers so filing cabinets will not tip over, and keeping pathways clear of tripping hazards.
- Reviews safety procedures before beginning each job with known hazards.
- Follows safety procedures while performing work even when it takes more time
- Uses safety equipment such as goggles, gloves, and earplugs as required or warranted.
- Frequently checks safety equipment for proper condition and operation.

Performance Levels:

Satisfactory

Maintains awareness of personal safety to avoid injury or property damage during all work activities.

Superior

“Safety first.” Places avoidance of injury or property damage above all other job requirements. Mentions the need to follow safe work practices to co-workers. Actively seeks ways to avoid injury.

Safety Focus Areas

1. Knowledge of the procedures and materials utilized to safely and properly clean windings, coils, and switches of various electrical components, such as by referencing Safety Data Sheets (SDS) and using contact cleaners, solvents, and detergents, sufficient to avoid damage to equipment, injury to oneself and others, and to maintain proper functioning equipment.
2. Knowledge of methods, stress limits, and equipment used in moving and hoisting heavy equipment, such as proper working positions and lifting practices, identification of weight restrictions, and the use of heavy duty moving equipment, sufficient to prevent damage to property and injury to oneself and others.
3. Knowledge of the hazards related to electrical repair work and Cal/OSHA and departmental safety regulations and precautions, such as working on live circuits, in adverse weather conditions and confined spaces, on aerial equipment or scaffolding, with rotating equipment, the use of Personal Protective Equipment (PPE), insulated barriers, and caution tape, lock-out/tag out procedures, and adherence to departmental operating orders (OO), sufficient to avoid damage to electrical equipment and to protect oneself and others from injury.
4. Knowledge of practices and procedures related to first aid and cardiopulmonary resuscitation (CPR), such as proper burn, dismemberment, heat stroke/stress, bone fracture, fall, and electrical shock procedures, sufficient to render temporary aid to employees or others.

26. ELECTRICAL UNDERSTANDING – Comprehends the concept and the operation of flow of electrical current.

Level of Competency Required by Job:

Level 1: Know the properties of electricity relevant to the work environment and work to be performed.

Level 2: Sufficient understanding of electricity to recognize problems and determine repair needed to prevent disaster/restore operation.

Level 3: In-depth understanding of electrical principles and phenomena sufficient to design and/or oversee the installation of complex electrical systems.

Examples of Behavioral Indicators:

- Ensures safe physical work environment by taking actions such as eliminating exposed electrical wire, faulty connections, empty sockets, and overloaded circuits.
- Recognizes the danger of fire from faulty electrical installations.
- Uses tools, equipment, and instruments properly to accomplish electrical work correctly and safely.
- Systems designed and/or for which installation is overseen perform as intended upon completion.

Performance Levels:

Satisfactory

Understands the operation of electricity sufficient to readily learn and perform electrical work.

Superior

Displays exceptional insight into the operation of electrical systems, and makes correct inferences regarding them. Promptly and accurately troubleshoots problem.

Electrical Understanding Areas

1. Knowledge of the fundamentals of electricity and electronics as they relate to electrical repair work, such as Ohms Law in circuitry, for troubleshooting, and preventative maintenance, sufficient to identify problems within the electrical equipment and make repairs as necessary.
2. Knowledge of electrical and mechanical characteristics of electric equipment, including knowledge of their internal functioning and connection, such as pumps, turning gears, fans, motors, generators, cranes, and various rotating equipment, sufficient to identify problems within the equipment and make repairs as necessary.
3. Knowledge of the installation and operation of basic electrical wiring circuits, such as fire protection equipment, battery banks, motor controls, and building and lighting circuits, sufficient to safely install and operate electrical equipment.
4. Knowledge of commonly used tools and equipment in electrical repair work, such as multimeters or VOMs (volt-ohm-milliammeter), meggers, ammeters, grinders, lathes, drills, presses, shears, lineman pliers, hacksaws, wrench sets, screwdrivers, tape measurers, calipers, and micrometers, sufficient to safely and properly use them to repair and provide preventative maintenance to electrical equipment.
5. Knowledge of the techniques and procedures of brazing and soldering of electrical connections as they relate to electrical equipment, such as oxy-acetylene and the use of SIL-FOS, sufficient to connect coils and motor, generator, and transformer windings and to repair electrical equipment.
6. Knowledge of the techniques and procedures involved in disassembly, reassembly, installation, repair modification, overhaul, rewinding, and rebuilding of utility electrical and hydraulic equipment, such as reviewing as-found and as-left reads, sufficient to repair equipment and put it back into operation.
7. Knowledge of inspection and testing procedures, such as reviewing Original Equipment Manufacturer (OEM) manuals, communicating with Engineering Departments, taking quality assurance (QA) readings, and conducting insulation, continuity, performance, vibration, and alignment testing, sufficient to conform to departmental standards and to determine the extent of damage and wear on electrical equipment.
8. Knowledge of standards related to the preparation of working sketches of tools and component parts of equipment, such as the use of print symbols and keys or legends, sufficient to provide clear instructions and guidance in the proper disassembly, reassembly, and troubleshooting of electrical equipment.
9. Knowledge of electrical diagrams and drawings sufficient to read and interpret them for use in the repair and maintenance of electrical equipment.

10. Knowledge of specifications related to electrical equipment, sufficient to properly install, repair, and modify equipment.

33. INTERPERSONAL SKILLS – Interacts effectively and courteously with others.

Level of Competency Required by Job:

Level 1: Interact with members of the workgroup, supervision, and/or the public in a cordial, service-oriented manner.

Level 2: Interact across department lines and with appointed City officials, and/or members of the public, at times under adversarial circumstances, in a cordial, respectful manner.

Level 3: Interact with appointed and elected City officials, department heads, representatives of external organizations, and/or the media in a cordial, effective manner.

Examples of Behavioral Indicators:

- Works well with others toward mutual objectives.
- Does not arouse hostility in others.
- “Disagrees without being disagreeable.”
- Elicits acceptance/cooperation from others.
- Affords all individuals respect, regardless of their role or status.
- Effectively addresses concerns of politicians or others who may have their “own agenda.”

Performance Levels:

Satisfactory

Behaves in a courteous, respectful, cooperative manner toward co-workers, other City employees, and members of the public.

Superior

Facilitates positive interpersonal relations within/among workgroups and toward members of the public. Adept at finding similarities and grounds for cooperation/mutual benefit.

35. TEAMWORK – Interacts effectively with others to achieve mutual objectives; readily offers assistance to others to facilitate their goal accomplishment.

Level of Competency Required by Job:

Level 1: Work effectively as a member of a work unit or project team. Readily offer assistance to others when they have too much work or have too little.

Level 2: Work effectively as a team member in which different people have different roles/responsibilities and perspectives. Identify points for collaboration with co-workers; readily offer and request assistance.

Level 3: *Work effectively as a part of an interdependent team (your work gets done only if the work of the whole team is done; evaluation of team performance is more relevant than individual performance).*

Examples of Behavioral Indicators:

- Discusses work-related matters with co-workers.
- Offers and requests assistance readily.
- Offers and is receptive to suggestions.
- Identifies problems with workflow that will prevent team from accomplishing its goals.
- Provides constructive criticism and feedback to team members to improve overall functioning of team.
- Assigns credit to team for accomplishments.

Performance Levels:

Satisfactory

Cooperates with co-workers and fulfills responsibilities as a member of a project team. Maintains a focus on common objectives and offers and requests assistance readily.

Superior

Sees the team as a whole; acknowledges that performance of the team is what in reality is evaluated by others. If anyone fails, everyone on the team fails.

40. CREDIBILITY – Is truthful and sincere; objectively and clearly provides all pertinent information rather than being vague, omitting negative information or only stating what listeners “want to hear.”

Level of Competency Required by Job:

Level 1: Freely and openly share accurate job-related information with co-workers.

Level 2: Provide complete, accurate information to other City employees and members of the public.

Level 3: Represent department to the Mayors’ Office, City Council, City Commissions, and/or department heads, and/or to external organizations, professional associations, and/or the media.

Examples of Behavioral Indicators:

- Admits mistakes.
- Information provided is consistent (not contradictory or stating different things to different people).
- Answers questions directly and thoroughly.
- Shares credit for achievements.
- Acts in the best interest of the organization, not self interest.

Performance Levels:

Satisfactory

“Tells the complete story” from the onset. Is forthcoming with full information when questioned. Statements are consistent. Readily admits mistakes and gives credit to others.

Superior

Information provided is complete and accurate, and includes any negative information or information contrary to self interest. Does not attempt to be vague or put a “spin” on negative information to make it appear more positive.

43. FOLLOW ORAL DIRECTIONS – Performs work accurately as directed orally.

Level of Competency Required by Job:

Level 1: Receive specific, complete oral directions daily or by individual task assignment throughout the day.

Level 2: Receive general instructions orally that span across days or for entire assignments.

Level 3: Receive general instructions/assignments orally regarding long-term objectives/responsibilities.

Examples of Behavioral Indicators:

- Does work assigned orally properly and on time.
- Asks pertinent questions for clarification of assignments.
- Performs work correctly when instructions were given orally.
- Explains assignments to others who received the same instructions.
- Performs work in accordance with general outline provided orally.
- Correctly infers details of assignments given only in general terms.

Performance Levels:

Superior

Satisfactory

Properly performs work when concrete, specific instructions are given orally. Asks pertinent questions when parts of the instructions are unclear or omitted.

Properly performs work assigned orally. Answers questions or explains work to others. Correctly infers details or portions of instructions that were omitted.

44. FOLLOW WRITTEN DIRECTIONS – Performs work accurately as directed in writing.

Level of Competency Required by Job:

Level 1: Perform tasks assigned in writing.

Level 2: Perform work after reading instructional manual.

Level 3: Perform work after completion of training modules or programs presented in writing.

Examples of Behavioral Indicators:

- Correctly completes work assigned in writing.
- Answers questions and/or explains work to others who received the same instructions.
- Learns and applies information presented in writing (instruction manual; training program).
- Correctly infers details of work to be performed that were unclear or omitted as presented in writing.

Performance Levels:

Satisfactory

Correctly performs work assigned or for which training was provided in writing.

Superior

Understands instructions and training materials presented in writing to the extent that is able to answer questions or explain to others. Correctly infers unclear or omitted details as presented in writing.