

**COMPETENCY MODEL FOR
ELECTRICAL ENGINEER
CLASS CODE 7539**

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

- 3. Judgment and Decision Making
- 8. Safety Focus
- 20. Job Knowledge
- 28. Supervision
- 33. Interpersonal Skills
- 45. Oral Communication
- 47. Written Communication
- 49. Project Management
- 59. Strategic Planning

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 levels.

3. JUDGMENT AND DECISION MAKING – Accurately assesses situations, seeks new information if necessary, and applies all available information to reach sound conclusions/formulate effective response.

Level of Competency Required by Job:

Level 1: Training and guidelines needed to respond to immediate situations within very specific function are provided (or supervisor available to assist).

Level 2: **General information and guidance to assist in responding to a variety of situations across a range of circumstances are provided.**

Level 3: Little guidance available for responding to a wide range of complex situations with far-reaching and/or enduring consequences.

Examples of Behavioral Indicators:

- Effectively responds to atypical situations.
- Asks questions or otherwise obtains additional relevant information to make a decision.
- Formulates a decision and necessary actions based on available facts.
- Correctly infers appropriate response based on information provided and existing policies, personal experience, and/or consultation with others.
- Discusses conclusions/possible responses with others before taking action as necessary.
- Considers impact of decisions on all affected parties.

Performance Levels:

Satisfactory

Correctly assesses routine and unusual situations and reaches appropriate conclusions for actions needed. Obtains additional information and/or consults with others as necessary.

Superior

Evaluates new situations accurately to establish an appropriate response or plan of action. Recognizes the impact on all affected parties, as well as the possible ramifications and/or repercussions of setting a precedent.

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.

20. JOB KNOWLEDGE – Knows information required to perform a specific job. Includes both widely available courses of study (for example, chemistry, human resources management, graphic arts) and City-specific information (parking regulation and ticketing practices; purchasing procedures; provisions of the City Charter).

Level of Competency Required by Job:

Level 1: Knowledge is concrete, factual, and/or procedural and may be defined by the organization. Situations in which it is applied are quite consistent.

Level 2: **Knowledge is substantive and may be defined by an external trade, field, or profession. Situations in which it is applied vary and, as such, require breadth and depth of understanding.**

Level 3: Knowledge is abstract, conceptual, and/or complex and may be supported by a well-defined academic discipline or authoritative sources (e.g., laws, ordinances, government guidelines/regulations/codes). Situations in which it is applied may vary greatly or be novel.

Examples of Behavioral Indicators:

- Performs work correctly/avoids technical (job content related) errors.
- Answers technical questions about work accurately.
- Asks few technical questions about the performance of routine work activities.
- Offers advice (“coaching”) to new employees regarding their work.
- Develops training programs for other employees.
- Sought out as a source of information by others.

Performance Levels:

Satisfactory

Sufficient job knowledge to perform work correctly independently. Answers technical questions about work correctly.

Superior

Expertise in technical job information sufficient to serve as a resource to others. May develop training manuals/programs and/or give internal and/or external presentations related to work.

Job Knowledge Areas

1. Knowledge of power system facilities' design, operation, and maintenance, such as generation, transmission, distribution and application codes sufficient to assign, review, and evaluate the work of an engineering group.
2. Knowledge of utility regulations and legislation, such as California State Legislation, related to Renewable Portfolio Standards (RPS) that affect the Power System in order to ensure that the Department of Water and Power is in compliance.
3. Knowledge of the principles and practices of electrical engineering such as research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering group.
4. Knowledge of conductors and insulating materials, such as transformer blankets, transmission and distribution level conductors, and power system grounding, such as ground grid and corrosion control, as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
5. Knowledge of circuit theory and analysis, such as A.C. & D.C. circuits, and basic theory of power and VAR flows as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering group.
6. Knowledge of transformers, protective relays, circuit breakers, and electrical apparatus as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
7. Knowledge of basic principles and practices of civil, mechanical, and structural engineering as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
8. Knowledge of rotating electrical machines, such as motors, generators, and synchronous condensers, as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
9. Knowledge of electrical testing methods, including the use of an augmeter or Doble, and electrical testing procedures, such as transformer gas tests and insulation tests, sufficient to validate the electrical integrity of major power system equipment.

10. Knowledge of facility automation, instruments, and controls as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
11. Knowledge of power system planning and analysis, such as including reliability analysis, power flow stability analysis, short circuit studies, and economic assessments, as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering group.
12. Knowledge of renewable energy technologies, such as wind, geothermal, solar, and biomass, as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
13. Knowledge of computer programs and applications commonly used in electrical engineering sufficient to assign work and understand the workflow process, including simulation results.
14. Knowledge of cyber security to improve existing processes sufficient to ensure compliance, identify vulnerabilities, and mitigate cyber security risks.
15. Knowledge of power system regulatory compliance for leading LADWP's compliance with FERC (Federal Energy Regulatory Commission) NERC (North American Electric Reliability Corporation), and WECC (Western Electricity Coordinating Council) reliability standards, including cyber CIP compliance standards.
16. Knowledge of energy storage technologies and Distributed Energy Resources (DER) as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
17. Knowledge of the Power System Reliability Plan (PSRP) and its importance to the division as applied to the research, planning, design, construction and maintenance, safety, testing, and operation of electrical facilities sufficient to assign, review, and evaluate the work of an engineering and technical group.
18. Knowledge of LADWP transition towards a 100% clean energy supply while maintaining reliable and cost effective electric service for customers sufficient to develop and evaluate program and project alternatives for power system planning based on cost (avoided cost and present value), electric reliability and safety, and environmental regulation.
19. Knowledge of detailed engineering design drawings, such as schematic, wiring diagrams, and equipment layout drawings.

28. SUPERVISION – Ability to assume direct responsibility for all aspects of the performance of a work group, which requires knowledge and/or ability in the areas of:

- Planning and goal setting
- Creating a safe and positive work environment
- Establishing standards and training employees
- Motivating employees and team building
- Performance Management (assigning, monitoring, facilitating, reviewing and evaluating work, and providing feedback)
- Supporting and developing employees through delegation and participation
- Taking disciplinary action including progressive discipline
- Provisions of employees' MOU's and handling grievances
- Legal requirements including EEO, ADA, FLSA, FMLA, and Workers' Compensation provisions
- Civil Service Commission Rules and Policies related to the management of employees
- Administrative Code provisions related to the management of employees
- Budget processes sufficient to request and justify expenditures in a correct and timely manner

Level of Competency Required by Job:

Level 1: Supervises small workgroup of employees performing the same or highly related work.

Level 2: Supervises a larger workgroup of employees performing various types of work.

Level 3: **Supervises employees including provision of coaching and advice to subordinate supervisors.**

Examples of Behavioral Indicators:

- Plans, assigns, and monitors work progress.
- Trains employees to do work.
- Evaluates work and gives positive and negative feedback.
- Displays knowledge of legal requirements including applicable Federal and State laws, Administrative Code provisions, Civil Service Commission Rules and Policies, and MOU provisions.

Performance Levels:

Satisfactory

Proficiency in supervision sufficient to supervise a workgroup in terms of task orientation, interpersonal concerns, and personnel administration.

Superior

Proficiency in supervision sufficient to serve as a resource to others and/or represent department position in a public forum.

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.

45. ORAL COMMUNICATION – Communicates orally in a clear, concise, and effective manner.

Level of Competency Required by Job:

Level 1: Exchange specific, job-related information orally with others in the immediate work environment or via telephone and/or radio.

Level 2: Obtain/provide/present general and/or job-specific information orally to a variety of others in various situations.

Level 3: **Obtain/provide/present a diverse array of information orally at varying levels of complexity to a wide range of others across many different situations and circumstances.**

Examples of Behavioral Indicators:

- Audience clearly understands the intended message.
- Rarely must repeat information in response to questions.
- Refrains from use of unnecessary words, phrases, or jargon.
- Provides a level of detail appropriate to the situation (avoids too much or too little detail).
- Speaks at a level appropriate to the audience in terms of terminology, sentence structure, and simplicity/complexity of ideas expressed.
- Uses words with precision (vocabulary) to convey exact information.

Performance Levels:

Satisfactory

Speaks clearly and audibly, providing the appropriate information and level of detail. Typically conveys the message on the first attempt. Answers questions accurately and directly.

Superior

Speech is direct and to the point. Speaks convincingly and with authority when appropriate. Maintains sensitivity to the audience while providing thorough information with the appropriate level of detail through the use of precise language.

47. WRITTEN COMMUNICATION – Communicates effectively in writing.

Level of Competency Required by Job:

Level 1: Write notes/e-mails. Completes forms with some open-ended responses (sentences).

Level 2: Write letters, articles/reports, and/or detailed descriptions of activities/occurrences.

Level 3: **Write lengthy reports, instruction manuals, in-depth analyses/reviews of complex issues and/or articles for publication. Reviews the written work of others.**

Examples of Behavioral Indicators:

- Writing includes the necessary information to convey the intended message.
- Sufficiently few errors in spelling, punctuation, grammar to not interfere with the intended message or distract the reader.
- Little editing or re-writing needed to produce a final product.
- Composes materials efficiently.
- Information is presented in a well-organized manner.
- Tone and degree of formality are appropriate to the purpose and audience.

Performance Levels:

Satisfactory

Writes material that clearly communicates the necessary information; needs little editing.

Superior

Precisely uses words and organizes information in a way that enhances presentation of the message. Virtually no editing needed.

49. PROJECT MANAGEMENT – Anticipates and plans for all aspects of a multi-faceted, discrete endeavor to ensure resources are available and actions are taken at proper times for successful completion.

Level of Competency Required by Job:

Level 1: Plan, coordinate, and oversee accomplishment of multi-step projects involving other employees.

Level 2: **Design, plan, coordinate, and manage large, multi-faceted projects involving employees from various segments of the organization representing different perspectives.**

Level 3: Design, plan, secure approval and resources, and manages large-scale, complex projects involving many employees representing a large number of diverse segments of the organization and perspectives, which may at times be in conflict.

Examples of Behavioral Indicators:

- Establishes project plans that gain management acceptance.
- Establishes realistic timeline and estimates of resources needed.
- Assembles appropriate team with complementary skills to efficiently execute all portions of a project.
- Considers the workforce and its operation as a whole.
- Secures necessary resources for successful project completion.
- Clearly designates roles/responsibilities/accountability.
- Addresses failure to perform or other problems in a timely and effective manner to minimize negative impact.

Performance Levels:

Satisfactory

Establishes acceptable project plan; assembles team with required skills; establishes personal responsibility/accountability. Ensures the necessary time and resources are available.

Superior

Designs efficient project plan to maximize benefits and minimize use of resources. Designates precise mix of people to best accomplish the project. Completes on time, with resources allocate.

59. STRATEGIC PLANNING – Establishes plans in a way that will achieve vision for the future.

Level of Competency Required by Job:

Level 1: **Recognizes that no work organization is static, so identifies how an improved organization would function and develops plans to create such an organization.**

Level 2: Considers factors in the external environment, best practices, and internal organizational factors to develop a vision for the future; identifies feasible changes/innovations in support of the vision.

Level 3: Considers social, economic, legal, and political trends and the “big picture” of the organization to establish a vision for its effective operation in the world of the future.

Examples of Behavioral Indicators:

- Establishes and keeps up-to-date a “strategic plan.”
- Articulates how current trends and anticipated future events are expected to impact the organization.
- Identifies actions the organization can take to accommodate or leverage trends and future events.
- Recognizes that evolution/change will occur, and without an attempt to manage it, that it is unlikely to be in the best interest of the organization.
- Accepts that even when many factors are unknown or their certainty is questionable, that which is known with any degree of certainty can be effectively used to formulate plans.

Performance Levels:

Satisfactory

Considers the future when establishing current day-to-day operational practices. Envisions an improved organization and identifies specific actions to help create it.

Superior

Understands that the larger environment in which the organization exists is influenced by and influences the organization. Not with standing uncertainties, formulates a vision and plans to achieve it.

