

**COMPETENCY MODEL FOR
PORT ELECTRICAL MECHANIC (2016)
CLASS CODE 3758**

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

- 3. Judgment and Decision Making
- 8. Safety Focus
- 20. Job Knowledge
- 24. Mechanical Aptitude
- 26. Electrical Understanding
- 35. Teamwork
- 43. Follow Oral Directions
- 47. Written Communication

On the following pages are descriptions of each competency, including a definition, the level of the competency required for the class (*italicized 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:

- Obtains the necessary amount of relevant information.
- 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.

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 solid state components, direct current controls, and AC controls at a level sufficient to install, maintain, and repair marine equipment, and solid state circuitry in electronic controls.
2. Knowledge of the methods used to deenergize and disconnect motors, generators, and transformers at a level sufficient to safely and efficiently complete marine equipment repair and maintenance jobs.
3. Knowledge of the function of transistors, diodes, and electronic circuits at a level sufficient to trace malfunctions.
4. Knowledge of the methods used to lay out a conduit run in the most economical manner at a level sufficient to complete marine terminal electrical jobs.
5. Knowledge of non-destructive testing methods such as mag particle inspection, visual inspection, and dye checks at a level sufficient to determine the strength of various materials.
6. Knowledge of the methods used to set up, operate, and use precision power machines such as drill presses and lathes to ensure safe, proper and efficient operation.
7. Knowledge of the methods used for precision measuring tools such as micrometers and calipers at a level sufficient to calculate sizes and thicknesses of marine electro-mechanical parts.
8. Ability to draw shop sketches at a level sufficient to graphically illustrate necessary repair and maintenance work.
9. Knowledge of rigging practices such as preparing slings and wire rope at a level sufficient to safely and efficiently lift and move large equipment, motors, generators, and tools.
10. Knowledge of the properties and uses of materials such as cast iron, steel, brass, aluminum, copper, bronze, and plastic at a level sufficient to determine the correct material to use for fabricating marine equipment.
11. Knowledge of electrical and electronic test equipment such as oscilloscopes, multimeters, meggers, clamp on amp meters, and volt ohm meters at a level sufficient to determine what electrical and electronic repairs are necessary.
12. Knowledge of the methods used to maintain and repair wire rope and multiple-strand cable such as splicing, sleucing, adjusting, brazing, reweaving, and rigging at a level sufficient to ensure marine terminal loads are safely listed and moved.

13. Knowledge of marine hydraulic systems such as piston pump, actuator, extension cylinder, retractor cylinder, and flow controls, at a level sufficient to visually inspect and repair hydraulic systems.
14. Knowledge of the methods used when operating welding equipment for processes such as arc, mig, tig, oxyacetylene at a level sufficient to repair container crane structural cracks.
15. Knowledge of marine equipment motor gear box components and processes such as lashes, gear teeth, and proper alignment at a level sufficient to disassemble, repair, and service gear boxes.
16. Ability to operate forklifts and related equipment.
17. Knowledge of the methods used to troubleshoot and repair programmable logic controllers in order to be able to restore smooth operation.

24. MECHANICAL APTITUDE – Accurately predicts the impact of forces on objects and assesses the behavior of other physical phenomena (e.g., volume, weight, velocity). Readily learns work involving the application of mechanical principles.

Level of Competency Required by Job:

- Level 1: Maintain a safe work environment by ensuring objects in it are stable, tools and equipment are properly used.
- Level 2: **Know the physical properties of objects in the work environment and correctly anticipate the action of forces upon them; performs work accordingly (correctly and safely).**
- Level 3: In-depth understanding of mechanical and physical phenomena sufficient to design and/or oversee the construction of systems.

Examples of Behavioral Indicators:

- Recognizes the impact of an earthquake on objects in the work environment and re-arranges them as possible to avoid possible damage or destruction and potential to cause injury.
- Uses tools properly to accomplish work correctly and safely.
- Recognizes the effects of various actions on objects and performs only those actions that will accomplish intended result and will not cause property damage or injury.
- Systems designed and/or for which construction is overseen operate as intended upon completion.

Performance Levels:

Satisfactory

Recognizes the operation of mechanical/physical phenomena sufficient to readily learn and perform work of a mechanical nature.

Superior

Displays exceptional insight into the operation of mechanical phenomena, and makes correct inferences regarding it. Promptly and accurately troubleshoots problems..

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 in order to correctly perform work and recognize hazards that will be created by the failure to do so.
- 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.

- 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.

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 longterm 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:

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.

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.

