

Electrical Engineering Technician

ROLE OVERVIEW

As an electrical engineering technician, you will assist engineers in designing, developing, and testing electrical equipment and control systems.

Your responsibilities may differ based on industry, employer size, and seniority but the primary duties will remain consistent. Working as an electrical engineering technician, you will be expected to provide technical support and services to different internal departments or external clients. Depending on where you are employed, technical support may require you to make site visits.

In this role you must have an ability to work both independently and as part of a team, demonstrating a unique capacity for problem solving and attention to detail. In the oceans technology sector, technicians are tasked with installing, commissioning, and deploying devices in the marine environment. Openness to work on vessels for daily operations may be required. Working in this environment could require you to have to work offshore, where operations consist of enhancing the efficiency and effectiveness of all aspects of oceans-related technologies such as communication systems, offshore energy production, military operations or search and rescue efforts

STRATA LEVEL: 2 – Technical Specialist

Also Known as:

- Electro-mechanical Technician
- Electronics Engineering Technician

Education and Experience:

- A one or two-year college program in electrical or electronics engineering technology.
- A two or three-year college program in electrical or electronics engineering technology, computer engineering technology may be considered an additional asset.
- Certification by a provincial association of engineering may be considered an asset.

Associated NOC(s):

- **2241** – Electrical and Electronic Engineering Technologists and Technicians



TECHNICAL



Engineering Design

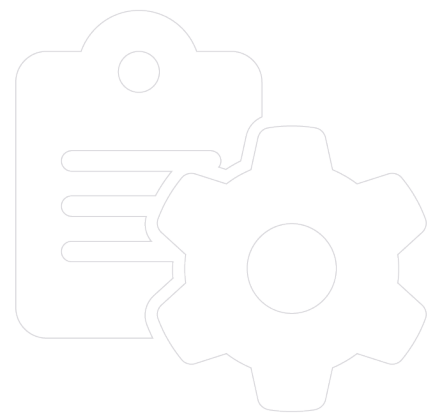
Responsible for the technical aspects of the planning and design of engineering project[s] to ensure the project is constructed in a safe, efficient, and effective manner.

- Assist in the design and improvement of transformers and transmission systems to achieve the highest level of productivity and efficiency for the distribution of electricity to different systems.
- Proposes technical design or process changes to improve efficiency, quality, or performance of structures, systems, or facilities.
- Prepares complete technical drawings with sufficient details and specifications to ensure the effective and safe construction of structures, systems, and facilities.
- Applies quality control techniques throughout the design and construction to ensure the safe construction of structures, systems, and facilities for the purposes of achieving regulatory compliance.
- Troubleshoots and repairs electro-mechanical problems in instrumented systems to ensure performance and safety.
- Use CAD to design and prepare blueprints of electrical installations and circuitry according to specifications given in aid to the engineering team.

Engineering Review and Analysis

Reviews and analyzes relevant information pertaining to technical designs and complex systems to develop appropriate solutions.

- Defines the engineering-related problem or opportunity and potential risk and benefits of project proposal[s] to senior management and stakeholders so that the project proposal can be approved and implemented.
- Recommends appropriate technical designs or process changes to improve efficiency, quality, or performance.
- Assist in the inspection and evaluation of electrical, electro-mechanical and electronic components to ensure conformance with product specifications and tolerance.
- Evaluate the precision and accuracy of equipment, facilities, structures, and systems to formulate a corrective action plan.



Quality Assurance and Control

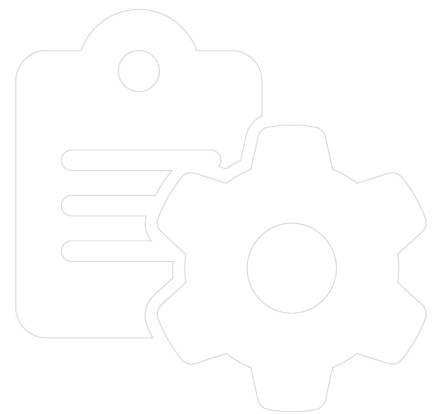
Follows appropriate processes, as directed by organizational best practices, to ensure quality is maintained throughout operations.

- Assesses quality control and calibration data to maintain operational standards.
- Applies statistical techniques and calculations to monitor and track the acceptability of quality control results.
- Complies with quality assurance policies to ensure regulatory compliance.
- Tests a wide range of electrical and electronic equipment to find and establish routine maintenance schedules for safety and security.

Equipment Operation

Operates equipment using established processes to ensure outcomes are within allowable variances and maximizes safety and efficiency.

- Uses voltage or current meters to measure and display voltage and test the presence of voltage in circuits for day-to-day assessments and operations.
- Uses appropriate equipment to solder metals and other material workpieces for mechanical and electrical assembling.
- Uses a range of specialized tools and equipment to diagnose faults and carry out testing for the maintenance of electrical equipment.
- Follows appropriate procedures to calibrate and recalibrate instruments and equipment to ensure accurate measurements and quality control.



Equipment Maintenance

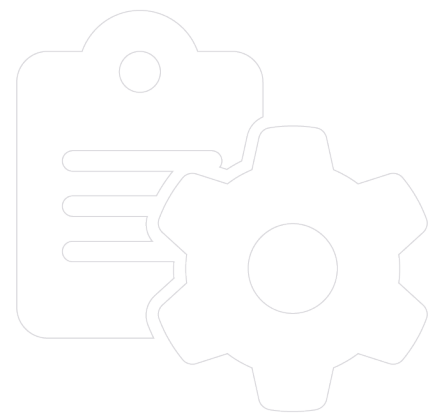
Performs routine and non-routine maintenance of equipment to maintain safe and efficient operations.

- Performs preventative maintenance according to established protocols to ensure equipment and systems function efficiently.
- Identifies and reports major equipment maintenance needs, prior to failure, to maintenance personnel to ensure safe and efficient operations.
- Recommends potential updates and short-and long-term infrastructure and equipment requirements.
- Monitors technical aspects and plans testing, calibration and carries out repairs of electrical equipment and systems to ensure safety, security, and efficiency.

Database Administration

Organize and maintain databases to ensure that information is available and accessible to the organization to facilitate analysis, research, and decision making.

- Uses appropriate software to maintain organized and up-to-date information logs.
- Contributes to developing protocols for database management to ensure regulatory compliance.
- Collates information from a range of sources to produce a single comprehensive document.
- Collects and compiles operational or experimental data to assist in the estimation, scheduling and budgeting of operations and projects.



Data Analysis

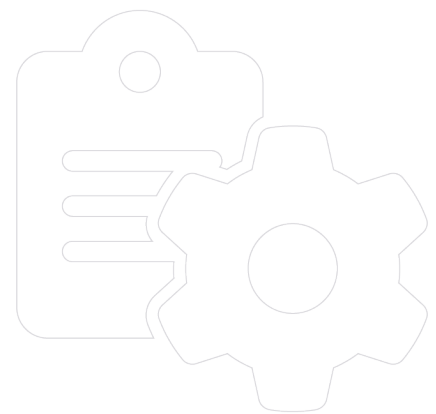
Applies recognized statistical tools and techniques to interpret and analyze data for the purposes of uncovering trends, patterns, and opportunities to enable strategic decision-making.

- Uses appropriate methodologies to study collected data and provide interpretations of the results.
- Analyzes test results to make appropriate process adjustments.
- Prepares summary reports of analysis results to be added into technical reports or presentations to expert and/or non-expert audiences.
- Interprets statistical, technical, and environmental data to prepare clear, and concise recommendations, reports, and studies.

Prototype Development

Assists in designing prototypes of products or components of products by applying design and engineering principles to showcase the future product and test potential innovations to enhance market competitiveness.

- Applies working or theoretical models throughout the design, testing, and modification process to test again product prototypes.
- Assists in the designing, development and testing of electrical components required to improve and develop prototypes.
- Assists in the development of an early model to test concepts and replicability of hardware or systems.
- Integrates feedback from superiors and clients and tests data to refine prototypes to improve end design.



PERSONAL AND PROFESSIONAL



Attention to Detail

Delivers a concentrated concern, including monitoring and checking information, organizing tasks and resources efficiently, or all areas involved towards the completion of an objective.

- Provides accurate, consistent information on all pieces of work to ensure reliable results.
- Provides information on a timely basis and delivered in an audience-appropriate language to communicate effectively.
- Monitors the quality of work done by team members by establishing procedures to ensure information is reviewed.
- Accurately completes documents and report logs to ensure safe and efficient operations.

Problem Solving

Identifies problems and uses logic, judgement, and evidence to evaluate alternative scenarios and recommend solutions to achieve the desired goal.

- Analyzes project metrics to understand trends and potential areas of concern to take appropriate actions where required.
- Simplifies complex ideas and technical concepts into accessible information to communicate with stakeholders, senior management, and team members.
- Identifies, evaluates, and generates solutions to concerns brought forth by team members to maintain a harmonious workflow.
- Seeks advice from senior decision-makers or subject matter experts when confronted with issues to ensure effective solutions.



Teamwork

Actively participates in working with and helps others to accomplish a common objective.

- Verbally conveys complex technical information accurately, clearly, and effectively to communicate technical operations.
- Presents information to decision-makers in a logical and structured manner to ensure understanding.
- Recommends improvements or solutions to supervisors for the purposes of improving operational efficiency.
- Supports the decisions of senior employees and works to achieve the specified outcome.
- Participates in training activities and incorporates acquired skills and knowledge to improve operational performance.



LEGAL, REGULATORY, AND POLICY



Regulatory Compliance

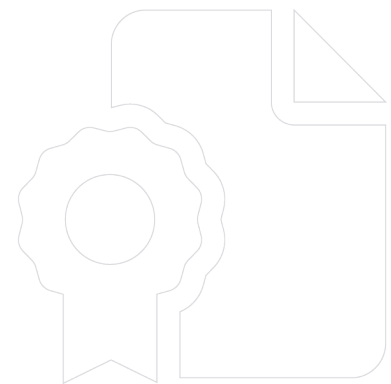
Adheres to specific regulations, codes, and legislation within a defined jurisdiction to ensure the health and safety of others.

- Complies with regulatory requirements to prevent the use of banned materials during operations for the safety of individuals and the environment.
- Complies with specific industry regulations within a defined jurisdiction to maintain a safe work environment.
- Notifies necessary parties of containment or quality issues to ensure appropriate measures are taken.
- Complies with specific industry regulations within a defined jurisdiction to maintain a safe work environment.

Health and Safety Procedure

Abides by and advocates specific workplace safe operating procedures and occupational health and safety requirements within a defined jurisdiction to ensure the health and safety of others.

- Participates in safe workplace training as required to ensure an up-to-date understanding of health and safety best practices.
- Demonstrate an understanding of the safeguards to protect the public and the methods of mitigating adverse impacts.
- Assists in the development of workplace safe operating procedures to maintain a safe work culture.
- Inspects quality of products and systems follows standards and specifications for the prevention of defects, setbacks, or hazards.
- Attends safety meetings and daily tailgate meetings so that all employees are up-to-speed on operations and potential workplace hazards.



ENVIRONMENTAL



Insert

Insert.

- *Insert.*

Insert

Insert.

- *Insert.*

