



**DEMERARA HARBOUR BRIDGE CORPORATION  
MANAGEMENT POSITION DESCRIPTION**

<b>JOB TITLE:</b>	<b>ELECTRICAL MAINTENANCE ENGINEER</b>	<b>LOCATION:</b>	<b>HEAD OFFICE</b>
<b>REPORTS TO:</b>	<b>MAINTENANCE MANAGER</b>	<b>GRADE:</b>	<b>08</b>
<b>DEPARTMENT:</b>	<b>MAINTENANCE</b>	<b>SECTION:</b>	<b>ELECTRICAL</b>

**I. ACCOUNTABILITY OBJECTIVE**

Responsible for the generation, transmission, and consumption of electricity and power, specifically energy and power development and supply, automation and communications, microelectronics, and technical informatics; identifying and managing reliability and maintainability of all electrical equipment, control systems, and components to required specifications, codes and international standards for the efficient flow of the **Demerara Harbour Bridge**; ensures maintenance reliability plans and activities are executed in a safe and efficient manner.

**II. DIMENSIONS OF POSITION**

**A. NATURE AND SCOPE OF THE POSITION**

The **Electrical Maintenance Engineer** is responsible for the overall integrity and reliability of all electrical installations, systems, and equipment for the **Corporation**. The **Incumbent** is responsible for overseeing the installation of electrical equipment, including electrical motors, machinery controls, lighting, wiring of the building, control power generation, and transmission devices and ensures that electrical systems meet statutory regulatory requirements.

The **Incumbent** provides technical and engineering support in the installation, testing, and maintenance of electrical equipment to ensure safety, reliability, quality, and sustainability and conducts an analysis of problems. In addition, identifies solutions and/or options and recommends new ways to use electrical power for energy efficiency. The **Incumbent** is also required to research, develop, and design alternative sources of energy that are environmentally sustainable and renewable.

The **Electrical Maintenance Engineer** is required to regularly inspect all bridge lights and cables at each junction of the bridge, as well as all electrical equipment such as air conditioning units, distributing points, lighting systems, cables, and oversees the daily operations of all computers, cameras, telephones, data and PLC system at **Demerara Harbour Bridge Corporation**.

The **Incumbent** must determine on an annual basis the '**Major Job Objectives**' for each aspect of the Work Programme of the **Electrical Section** and identify and discuss with Subordinates the '**Key Results Areas**' to be used as determinants to their performance results on a quarterly basis.

**B. PRINCIPAL ORGANISATIONAL RELATIONSHIPS:**

(The Incumbent relates to the following areas/titles internally and externally in carrying out accountability objectives)

**AREA/TITLE:**

**RESPONSIBILITY:**

**INTERNAL:**

Maintenance Manager      To conduct engineering site audits to collect structural, electrical information; to coordinate electrical engineering activities with other engineering specialists.

Electrical Maintenance Officer      To monitor output and quality of work with respect to maintenance and repair of electrical equipment and evaluates technical data from subordinates; to ensure adherence to specifications, statutory codes, and safety regulations.

Traffic Coordinator      To carry out a scheduled retraction to facilitate ocean-going vessels.

**EXTERNAL:**

Guyana Power and Light Inc.	To facilitate connection to electrical supply; to ensure compliance according to specifications.
Guyana Telephone & Telegraph Company Ltd.	To liaise with GTT personnel to fix disrupted phone lines and the internet.
Guyana Energy Agency	To ensure compliance with company rules and regulations and enforce strict compliance/requirements of Health and Safety legislation.
IT Specialist and Consultant	To upgrade and service servers and software, maintenance of wireless linkages and cameras for the <b>Demerara Harbour Bridge</b> .
Consultants (Holland)	To fix retractor span.
Contractors	To install cameras, install and repair generators and perform checks to towers, antennas, install electrical components in new buildings, etc.

**C. PERSONNEL SUPERVISED BY THIS POSITION INCLUDE:**

**DIRECTLY**

**INDIRECTLY**

Electrical Technician

**III. PRINCIPAL ACTIVITIES TO ATTAIN ACCOUNTABILITY OBJECTIVES:**

(The following responsibility statements identify specific duties necessary to attain Demerara Harbour Bridge Corporation's overall objectives while not precluding the position holder from carrying out other related activities that may be inherent in the position)

**DESIGNS, DEVELOPS,** and **OVERSEES** systems and subsystems that rely on electricity to work such as the generation, transmission, and distribution of electrical power such as AC and DC electricity as well as other related devices such as transformers, electric generators, electric motors, and power electronics, as well as electrical networks for the construction of new buildings at the **Demerara Harbour Bridge**.

**OVERSEES** the overall integrity and reliability of all Electrical Installations, Systems, and Equipment involving troubleshooting, reliability improvements, developing engineering solutions to repetitive failures, and other problems that adversely affect equipment operations.

**DEVELOPS** preventative and predictive maintenance schedules for systems, machinery, and equipment to ensure that these continue to operate at optimum levels.

**OVERSEES** routine electrical maintenance, replacement or alteration of circuit wiring, switches, control equipment, and mechanisms, motors, transformers, relays, generators, appliances, lighting network and plant, security alarms and cameras, communication equipment, data storage, and server, etc.

**OVERSEES** the 24-hour operations of all computers, cameras, telephones, data, and PLC systems at the offices of the **Demerara Harbour Bridge**.

**DETERMINES** standards and policies for installation, modification, quality control, testing, inspection, and maintenance of buildings and equipment.

**SUPERVISES** work of Electrical Technicians involved in the installation, maintenance, and repair of electrical equipment, ensuring adherence to specifications, statutory codes, and safety regulations.

**COORDINATES** operation and maintenance activities to ensure optimum utilization of power system facilities and meet customer demands for electrical energy.

**SUPERVISES** work of technical and craft personnel involved in fabrication, maintenance, and repair of electrical equipment, ensuring adherence to specifications, statutory codes, and safety regulations.

**CERTIFIES** requisitions for materials, supplies, and tools to be used from the Stores Section.

**RECOMMENDS** equipment for the generation, transmission, and distribution of electrical power as well as electrical networks for the construction of new buildings at the **Demerara Harbour Bridge**.

**ESTIMATES** cost and **SUPERVISE** manufacture, installation, and/or modification of electrical systems, appliances, components, and equipment.

**INVESTIGATES** and **DIAGNOSES** electrical problems in plant and equipment and makes recommendations for corrective action.

**PREPARES** work drawings with specifications for materials.

**ARRANGES** components and safety requirements for electrical installations and lighting systems in domestic, commercial, and industrial buildings.

**EVALUATES** technical data from subordinates, **MAINTAINS** records, and prepares technical reports.

**TESTS** and **COMMISSIONS** new installations in accordance with standing instructions and engineering practice.

**ATTENDS** meetings and sits on committees in a professional capacity.

**PERFORMS** thermal, stress, or cost reduction analysis for solar system and assesses green technology design requirements.

**ANALYSES** costs and benefits of proposed design or projects.

**PROVIDES** technical direction or support installation team during installations, start testing systems commissioning or performance monitoring.

**OVERSEES** the 24-hour operations of all computers, cameras, telephones, data, and PLC systems at the **Demerara Harbour Bridge**.

**MAINTAINS** knowledge of new developments in maintenance practices and procedures to ensure that there is continuous improvement in maintenance standards.

**PARTICIPATES** in the recruiting, training, mentoring, and development of Technicians to help them evolve in their careers and improve quality levels of the services provided.

**ENSURES** adherence to the corporate policies and procedures and safety regulations.

#### IV. MANAGEMENT JOB DESCRIPTION EVALUATION: QUALIFICATIONS PROFILE

POSITION TITLE: Electrical Maintenance Engineer		
FACTORS	SUBSTANTIATING DATA	
1	<b>EDUCATION</b>	University first degree in Electrical Engineering is required and Industrial Engineering is also desirable. Knowledge of solar energy systems and ability to create electrical single-line diagrams, panel schedules, or connections; electrical software, using computer-aided design software.
2	<b>EXPERIENCE/JOB KNOWLEDGE</b>	Professional requiring over five years' experience with knowledge of the design and installation of electrical equipment and systems. Ability to evaluate electrical systems components, and applications as well as finished products and system capabilities. Must be able to troubleshoot electronic systems and report research results. Attention to detail is important to the job. Ability to create graphical representations of energy production systems.
3	<b>TECHNICAL/ PROFESSIONAL</b>	The Incumbent maintains professional and technical knowledge by reviewing professional publications, participating and completing projects, and training and guiding technicians. Evaluate electrical systems, products, components, and applications by designing and conducting research programs, applying knowledge of electrical and materials.
4	<b>PROBLEM-SOLVING/ DECISION MAKING</b>	The Incumbent undertakes regular analysis of systems disturbances and compiles reports on failure or malfunction and corrective action taken. Must also take independent action on failure of plant and components are not endangered by the failure of protective devices. Requires in-depth knowledge of all electrical codes. Assumes product quality by detecting electrical testing methods, testing finished products, and system capabilities.
5	<b>INTERPERSONAL</b>	Completes projects by training and guiding technicians. Develops processes by designing and modifying equipment for building and assembling electrical components and soliciting observations from operators.
6	<b>RESPONSIBILITY FOR MATERIALS, CASH, ETC</b>	Responsible for the generation, transmission, and consumption of electricity and power, specifically energy and power development and supply, automation and communications, microelectronics, and technical informatics; identifying and managing reliability and maintainability of all electrical equipment, control systems, and components to required specifications, codes and international standards for the efficient flow of the <b>Demerara Harbour Bridge</b> ; ensures maintenance reliability plans and activities are executed in a safe and efficient manner.
7	<b>PROCEDURES/ REGULATIONS/ COMPLIANCES</b>	The Incumbent must keep equipment operational by following manufacturer's instructions and established procedures as well as maintaining the product and company reputation by complying with regulations. Provides engineering information by answering questions and requests.
8	<b>TEAMWORK</b>	The Incumbent may be required to work in a multi-disciplinary project team which is likely to include engineers from other specialist areas as well, during the development phase. Maintains professional technical knowledge by attending technical workshops; reviews professional publications, establishes personal networks, and participates in professional societies.
9	<b>WORKING ENVIRONMENT</b>	The working environment involves high risks and occasional exposure to potentially dangerous situations.
<b>LICENCES:</b>		