

TERMS OF REFERENCE (TOR)

Consulting Services

Of a

Electrical Engineer

for the Upgrading and New Construction Works

at

(12) Health Facilities

For

**SUPPORT FOR THE HEALTH SYSTEM STRENGTHENING FOR THE
PREVENTION AND CARE MANAGEMENT OF NON-COMMUNICABLE DISEASE
PROGRAMME**

1. Background

BACKGROUND

The Government of Jamaica has received two loans from the Inter-American Development Bank (IDB) to support the Health Systems Strengthening for the Prevention & Care Management of Non-Communicable Diseases (NCD) Programme. The programme objective is to improve the health of Jamaica's population by strengthening comprehensive policies for the prevention of Non-Communicable (Chronic) Diseases (NCDs) risk factors and improved access to an upgraded and integrated primary and secondary health network in prioritized areas with an emphasis on chronic disease management, that provide more efficient and higher quality care. This is a hybrid programme with a policy-based operation - a programmatic policy-based loan series (PBP) and an investment loan that will invest in the physical infrastructure and equipment of Jamaica's health sector.

The Policy-Based Loan will look at policies that will consolidate regulatory measures to address the preventable causes of NCDs and to reorient health systems to address prevention and control of NCDs through a people-centred primary health chronic care model. The Investment Loan, in turn, will finance activities to consolidate integrated health networks and improve the management, quality and efficiency of health services. The Policy Based Loan will benefit the Jamaican population at-large, while the Investment Loan will have approximately 800,000 potential direct beneficiaries who reside in the catchment areas of the health services networks that will receive investments.

The Investment Programme being implemented by the Ministry of Health and Wellness (MOHW) has two (2) major components and an allocation to support programme administration and evaluation:

Component 1 – Organization and consolidation of integrated health services networks

This component will finance the purchase of medical equipment and the improvement of infrastructure for primary health care services in the catchment areas of three priority hospitals to increase their capacity in health promotion and disease prevention, especially regarding chronic, non-communicable diseases. The investments will focus on strengthening the diagnostic and screening capability as well as the clinical and resolute capacity of health clinics. This Component will further finance the upgrading and or expansion of three (3) hospitals selected on criteria relating to strategic role in the national hospital network, supply-demand gap analyses, and physical needs assessment. The hospitals will benefit from infrastructure upgrading and or expansion as well as modernization.

Sub-Component 1.1 – Strengthening Primary Care

1.1 The purpose of this subcomponent is to increase the physical capacity for service provision at the primary care level in three (3) priority geographical areas. Approximately ten (10) health centres have been identified to receive investments in medical equipment and infrastructure refurbishment and expansion. The subcomponent will finance: (i) the preparation of building designs for the construction of new infrastructure on the sites of existing facilities (three centres), expansion of existing structures (four centres), and refurbishing (three centres); (ii) the physical works required for infrastructure improvement; (iii) the purchase of medical equipment including essential diagnostic and treatment items for NCDs, such as sphygmomanometers, electrocardiogram machines, pulse oximeters, defibrillators, computerized chemistry machines,

etc.); (iv) engineering services for construction supervision; and (v) corrective and preventive maintenance of medical equipment

Sub-Component 1.2 – Increasing the Capacity and Efficiency of Hospital Services

This subcomponent will address urgent needs to enhance patient safety and services in three (3) hospitals whose catchment areas contain the health centres identified in subcomponent 1.1. Financing from this subcomponent will be allocated to:

- (i) the building and engineering designs for the infrastructure improvement and expansion;
- (ii) the construction in three hospitals according to contracted plans and designs;
- (iii) the purchase of medical equipment to raise clinical capacity to partially account for existing demand;
- (iv) the purchase of imaging equipment, including computerized tomography machines;
- (v) purchase of industrial style laundry machines;
- (vi) construction supervision services; and
- (vii) the design and implementation of a corrective and preventive equipment maintenance programme.

Component 2 – Improvement of Management, Quality and Efficiency of Health Services

This component will provide technical assistance to design and implement the Chronic Care Model (CCM) in the participating health services networks; to review and develop care pathways and protocols; and to prepare change management, continuous quality improvement and social media marketing for behaviour change strategies. It will also finance the implementation of the fourth Jamaica Health and Lifestyle Survey. This component will further support:

- (i) the creation of a strong foundation for a digital health ecosystem, including the adoption of standards for interoperability, system architecture, updated governance structure, and other key elements;
- (ii) the design and implementation of a sustainable Electronic Health Record (EHR) platform focusing on digitalization of key processes within the improved CCM;
- (iii) the strengthening of telehealth/telemedicine/telementoring capacity to include chronic care management, and the establishment of norms and processes for its institutionalization.
- (iv) the strengthening of telehealth/telemedicine capacity through the expansion of the ECHO model, the inclusion of chronic care in the platform, and the establishment of norms and processes for its institutionalization.

The Loan also supports Programme Administration and Evaluation:

This allocation will support the MOH in terms of strengthening its institutional capacity for project implementation. It will finance, inter alia, the consultants of the Project Execution Unit (PEU), specialized technical services, independent auditing, as well as surveys and studies regarding the implementation of the programme and evaluation of its impact. The PEU is structured to provide additional capability in the areas of project management, procurement, financial management, infrastructure upgrading, medical equipment specification, and health information technology. Technical and fiduciary staff from the MOH will work closely with the PEU specialists so that the MOH benefits from knowledge transfer and capacity strengthening.

The Government of Jamaica (GoJ) and the Inter-American Development Bank (IDB) have negotiated a loan agreement to improve health system efficiency in Jamaica. The objective of the Support for the Health Systems Strengthening Programme (HSSP) is to improve the health of Jamaica's population by strengthening comprehensive policies for the prevention of Non-Communicable (Chronic) Diseases. As part of the initial preparation activities for the project the Ministry is required to establish a Project Execution Unit (PEU).

2. Objectives of the Consultancy

The main objective of the consultant is to support the MOHW/PEU and the FIDIC Engineering Firm/Project Manager with electrical engineering expertise.

The consultant will prepare and provide technical input particularly in review and modification of; electrical engineering designs, estimating & costing, and reporting of site activities and progress; and will work closely with the other team members in overall implementation of the MOHW HSSP projects listed below:

Phase I Facilities:

- 1) Spanish Town Hospital
- 2) St Jago Park Health Centre
- 3) Old Harbour Health Centre
- 4) Greater Portmore Health Centre

Phase II Facilities:

- 5) St. Ann's Bay Hospital
- 6) St. Ann's Bay Health Centre
- 7) Ocho Rios Health centre
- 8) Brown's Town Centre
- 9) May Pen Hospital
- 10) May Pen East Health Centre
- 11) May Pen West Health Centre
- 12) Mocho Health Centre

3. Scope of Work

The scope of services provided by the Consultant will include:

Phase I Facilities

1. Review and be familiar with the design concepts of all Phase I facilities;
2. Based on request from the FIDIC Engineering Firm/Technical Working Group for Spanish Town Hospital provide design services to amend drawings, calculations gaps identify by the Construction Supervision Firm (CSF) and/or the Contractor through the CSF;
3. Based on request from the Project Manager for Phase I health centres provide design services to amend drawings, calculations gaps identify by the Construction Supervision Firm (CSF) and/or the Contractor through the CSF.

Phase II Facilities

1. Review and be familiar with the design concepts of all Phase I and Phase II facilities
2. Conduct continuous inspections of the installation of electrical elements/components by the works contractor during the construction of Phase II health facilities ensuring that they are all in accordance with design specifications;
3. Based on request from the Project Manager for Phase II health facilities provide design services to amend drawings, calculations gaps identify by the Construction Supervision Leads (CSLs) and/or the Contractor through the CSL.
4. Review the electrical design components of the Design Firm for outstanding Phase II facilities to include St. Ann's Bay Health Centre, St. Ann's Bay Hospital, May Pen West Health Centre and Mocho Health Centre.
5. Review and provide feedback on specifications and engineering data.
6. Oversee the ongoing execution of work plans for all Phase II facilities
7. Attend regular site visits and assess construction interventions for Phase II facilities
8. Work in collaboration with consultant(s) hired to supervise the works as directed by the MOHW.
9. Provide recommendations to MOHW regarding electrical elements installation conditions based on site observations and assessments.
10. Monitor and report on progress and quality of works during the periods of works and Defects Liability Period
11. Prepare documentations including TOR to engage specialist firm(s) to conduct random sampling and testing as requested by the MOHW PEU.
12. Provide overall technical assistance and technical control/inspection to MOHW PEU New/upgrading projects, from their planning through to their implementation and handing over.
13. Establish Technical Controls for each phase of the works, ensuring that the contractor(s) comply with all codes and standard as required by the designs.

14. Review work plans of each of the contractors to ensure practical implementation of the works;
15. Conduct meetings with contractors, supervision firms to resolve issues and bottle necks
16. Closely monitor and supervise the progress of projects/works and provide status reports, conduct risk assessments, propose remedial action as required and monitor budget expenditure.
17. Prepare interim, final project and handover reports and maintain the relevant project records.
18. Assist with the commissioning of works and identify outstanding works during the defect's liability period, and prepare the final progress report.
19. Performs other duties as required by the MOHW/PEU.
20. Coordinate and liaise with MOHW Project Team/MOHW, contractor and conduct regular visits to the project sites and report on the progress to the MOHW and with project stakeholders on day-to-day implementation of electrical engineering related activities;
21. Provide guidance to the contractors to achieve construction performance standards and especially those related to Time, Cost, Quantity, and Quality
22. Ensure that all works comply with the agreed schedule and budget, terms and Conditions of the contracts, standard engineering practice, and MOHW's safeguards Policies.

4. Reporting/Supervision

- 4.1 The Electrical Engineer will report directly to the Project Manager Infrastructure Investment and indirectly to the PEU Programme Manager and will frequently liaise with:
 - Internally: All relevant members of staff of the MOH as indicated by the Project Manager (Permanent Secretary, Administration, Procurement, Financial and Technical Officers)
 - Externally: IDB team and Funding Agencies representatives, Technical Officers, Contractors, Consultants, Suppliers, External Auditors, Representatives of the various beneficiary ministries and agencies.

5. Implementation Arrangement

- 5.1 The Consultancy Services will be implemented for a period of (2) years with the possibility for extension.
- 5.2 The contract amount will be disbursed upon submission of invoices, satisfactory implementation of activities and delivery of required products, as agreed between the MOH/PEU and the consultant.
- 5.3 Ministry of Health through the PEU will be the executing agency and main recipient for the Consultancy Services with the Project offices as focal point in implementing the services.
- 5.4 Coordination meetings will be conducted between the PEU/Ministry of Health and the Consultant for the duration of the project, as may be needed, the expenses of

which are to be charged to the Contract.

- 5.5 The Construction Engineer PEU will provide the Consultant with the Project documents/support to enable the performance of the activities.

The deliverables shall be submitted by the Consultant in two (2) hard copies to the PEU/Ministry of Health for review. An electronic/soft copy in Microsoft Word Software or PDF to view (if not available to the PEU) shall be also submitted to PEU/Ministry of Health and Wellness.

6. Qualifications and Experience

- Degree in Electrical Engineering;
- Five to Ten (5-10) years professional and management working experience with projects with Electrical engineering both in government and non-government commercial projects.
- Registration with the Professional Engineers Registration Board would be an asset.

7. Other Requirements that would be an asset include:

- Experience with various construction delivery methods (i.e. IPD, LEAN, design-build/assist).
- Experienced working on FIDIC related projects will be an asset
- Experienced leading Building Information Modelling Systems (BIM) (3D-6D) coordination efforts and are able to run clash detection software.
- Ability to read, analyze & interpret contract documents, safety rules, operating & maintenance instructions & procedure manuals.
- Ability to write routine reports & correspondence.
- Ability to liaise with professionals from other disciplines.
- Ability to present project reports effectively.
- Ability to resolve issues quickly with little or no supervision.
- Ability to interpret a variety of instructions furnished in written, oral, schematic, or schedule format.
- Knowledge of all facets of ground up Construction/New Renovation. Work in 3D design (computer-aided design, or “CAD”)

- Devise alternative mechanical structures
- Complete assigned tasks within time and budget restraints
- Draft standards and geometric, dimension, & tolerance (GD&T) specifications
- Assist in supervising electrical designs and estimates
- Proactive and willing to take on new challenges
- Work effectively under pressure
- In addition, must be familiar utilize with the following compliances:
 - Engineering Product Data Management software (EPDM)
 - Jamaica Building Code 2018
 - (IBC) International Building code 2018
 - ASHRAE Guidelines 1.1
 - CSI/CSC MF – Masterformat: 2016
 - FGI Guidelines & Joint Commission
 - LEED v4 Building and Construction
 - International Energy Conservation Code (IECC) and (EGDE) Building Certifications

8. Cost of Consultancy Services

- 8.1 The contract for this consultancy is a lump sum contract, inclusive of professional fees, tax and other incidental expenses and printing of reports / deliverables.

9. Reporting/Deliverables and Payment Schedule

- 9.1 Billing for remuneration/professional fees shall be in accordance with the following delivery schedule and subject to the usual Government of Jamaica Accounting and auditing requirements:

Deliverables and Timeframe

Items	Deliverables	Performance	% Weight of Contract
1.0	Phase I Facilities - Review of designs	Report on the review require for the amendment(s), scope of the amendment(s) and estimated time as requested by the FIDIC Eng./Technical Working Group.	5% of contract sum or parts thereof based on number of facilities at an agreed rate
2.0	Phase I Facilities – Amendments designs and calculations as requested by the FIDIC Eng./Technical Working Group for STH and CSF for St. Catherine Health Centres	Amendments to be in conformance with required standards and specifications and design drawings should provide the graphical representation, indicating the arrangement of components, detailing, dimensions etc. for clear understanding and implementation by the contractor.	35% of contract sum or parts thereof based on number of facilities at an agreed rate
3.0	Phase II Facilities - Review of designs	Reports on the review on the designs for facilities completed by previous design firm	15% of contract sum or parts thereof based on number of facilities at an agreed rate
4.0	Phase II Facilities – Amendments designs and calculations as requested by the Project Manager	Amendments to be in conformance with required standards and specifications and design drawings should provide the graphical representation, indicating the arrangement of components, detailing, dimensions etc. for clear understanding and implementation by the contractor.	35% of contract sum or parts thereof based on number of facilities at an agreed rate
5.0	Site Visits and Reports	Reports detailing progress, quality and recommendations to facilitate timely completion of the works	10% of contract sum or parts thereof based on number of facilities at an agreed rate