



TERMS OF REFERENCE

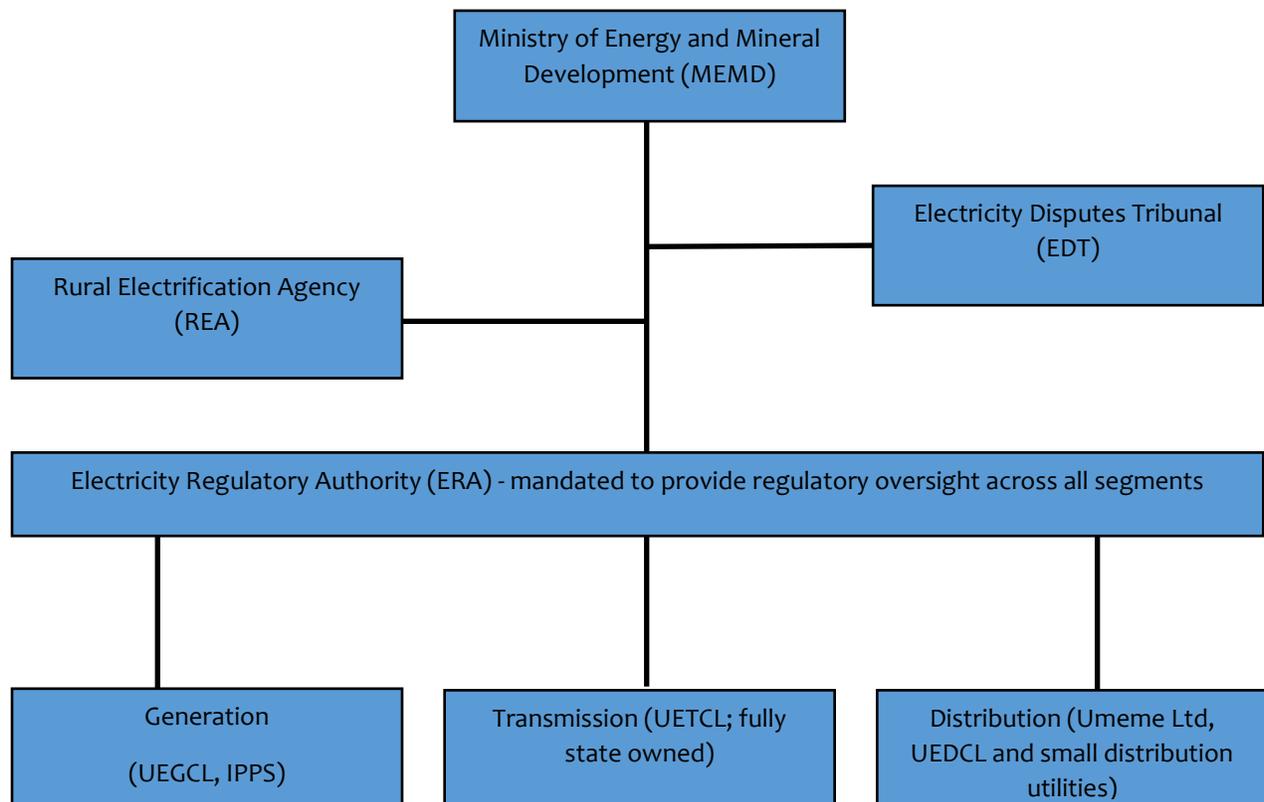
**FOR THE DEVELOPMENT OF A FRAMEWORK FOR PRIVATE SECTOR PARTICIPATION IN
UGANDA'S ELECTRICITY TRANSMISSION**

MARCH 2020

1.0 BACKGROUND

The Government of Uganda (GoU) implemented reforms in the Electricity Supply Industry starting in the late 1990's. These reforms culminated into the enactment of the Electricity Act, 1999, Chapter 145 of the Laws of Uganda (the 'Act'). The Act provided for the establishment of the Electricity Regulatory Authority (hereinafter referred to as 'ERA' or 'Authority') as a statutory body to regulate the Electricity Supply Industry in Uganda. The Act also provided for the creation of three distinct successor companies responsible for generation, transmission and distribution.

The functions of the Authority include the issuance of permits and licenses for the generation, transmission, distribution, sale, import and export of electricity; determination of the tariff structure and approval of the rates and charges for supply of electricity by transmission and distribution companies; determination of the procedure for investment programmes by transmission and distribution companies, and development of performance standards for licensees.



As shown in the current market structure above, the transmission segment is based on the single buyer model, with the system operator - *Uganda Electricity Transmission Company limited ('UETCL')* as single buyer and bulk power supplier of electricity. UETCL is a wholly owned Government corporation and holds four licences issued by the Authority, namely (1) Licence for system operation; (2) Licence for bulk power supply; (3) Licence for export & import of electricity; and (4) Licence for construction, ownership and operation of high voltage transmission installations.

Given the above functions, UETCL is central to the overall financial sustainability of the electricity supply industry given the flow of revenue in market structure. UETCL is obligated to pay the generators from the sale of electricity to the different distributors.

In order to manage the impact of transmission investments on the end user electricity tariffs, the Government of Uganda resolved to provide direct funding for major transmission capital requirements through budgetary allocations, public loans and grant financing. Therefore, unlike the generation and distribution segments, the private sector has not participated in the financing of transmission investments.

Therefore, the transmission tariff for UETCL as determined by ERA has largely been recovering transmission operation and maintenance costs, and limited recovery capital expenditure/investment related costs.

2.0 RATIONALE FOR THE PROPOSED FRAMEWORK

Over the last seven (7) years, there has been significant investment in the generation segment of the Electricity Supply Industry, supported by the REFIT policy, GETFIT and development of large hydro power plants – Karuma and Isimba power plants. Based on the installed capacity of generation plants (including operational, licensed but still under construction and committed plants), Uganda in the medium-term is expected to experience surplus generation of electricity. In response, the Government of Uganda is implementing initiatives aimed at ramping up domestic demand. In addition, through regional cooperation agreements, there will be a substantial increase in cross-border transactions in electricity. Thus, there is urgent need to reciprocate the same investment in transmission and distribution to ensure that the generated power is transmitted and distributed to consumers.

Based on the investment report by the System Planning and Coordination Committee, the investment requirement for transmission infrastructure for the next seven (7) years is estimated at US\$ 2.5 billion.

While Government has previously financed the development of the transmission grid, Government has limited resources and competing priorities. On the other hand, there is a risk of the planned generation power plants achieving commercial operations date without the requisite evacuation lines in place, thus creating a need for investment in the transmission backbone to facilitate growth in electricity demand and to avert deemed energy payments that would otherwise affect the financial sustainability of the Electricity Supply Industry. Therefore, ERA in consultation with the relevant Government Ministries and agencies is considering attracting private investment in the transmission segment with an aim of closing the existing imbalance in investments in the transmission sector. The World Bank Report¹ further mentions that private sector financing state-owned utilities increases capital flows to sector that would otherwise be unavailable, through four main business models including indefinite privatizations, whole-of-grid concessions, independent power transmissions and merchant investors.

Under the proposed framework, the investments will be funded through the tariff following a cost benefit analysis. Notably, given the current market structure and financing model for the development of transmission infrastructure, the Act requires that the Authority provides a framework to guide investment in the transmission segment. The assignment should explore a framework in consideration of the need to maintain the current market structure and operationalized within the existing and/or considered recommendations to the legal framework that supports its adoption and implementation. The benefits of the proposed framework will among others include partly cost-reflective transmission prices, increased electricity consumption, enhanced efficiency in the transmission segment through transfer of managerial, technological and technical skills.

The Terms of Reference for the assignment present the objective, scope of work and requirements for the proposed framework.

3.0 OBJECTIVE OF THE ASSIGNMENT

The objective of the assignment is to develop an exhaustive framework for private sector investments and participation in the electricity transmission segment that can provide certainty, predictability to prospective investors on the procedure and structure for recovery of investments and maintains the financial soundness of the transmission segment.

To achieve the above objective, there is need to;

¹ International Bank for Reconstruction and Development/The World Bank (2017) *Linking Up: Public-Private Partnerships in Power Transmission in Africa*

- i) Review the current legal framework to establish the legal requirements for implementation of the proposed private sector investments in the national and regional transmission of electricity in the ESI of Uganda;
- ii) Develop a regulatory framework (technical/operational, legal, economic and financial) that allows for private sector investments in transmission while being cognizant of and vis- a- vis the UETCL’s functions as the designated system operator, bulk power supply and export and import licence holder and ability to continue operating as a viable commercial and financial utility;
- iii) Develop a Standardized Transmission Service Agreement, Standardized Implementation Agreement(if applicable), Standardized Licence, Standardized bidding documents, Direct Agreement (if applicable), Standardized Interconnection Agreement, framework/guidelines, and other applicable agreements, documents for private participation in the transmission segment ;
- iv) Develop a cost –benefit methodology and MS Excel tool to guide decision making of private participation in the transmission sector of Uganda;
- v) Assess and build the capacity of the ESI agencies (UETCL, ERA and MoEMD inter alia) to regulate and implement the proposed investments under the new regulatory/ investment framework;
- vi) Conduct and provide support to Government and its agencies during and for the implementation of a pilot transaction for private sector investments in the transmission segment of Uganda; and
- vii) Conduct a post-pilot transaction implementation review and establish the lessons learnt, and propose improvements to be considered to attract private sector investments to the transmission subsector while ensuring financial sustainability of the Electricity Supply Industry.

4.0 PLANNED IMPLEMENTATION METHODOLOGY AND APPROACH

The ERA plans to follow a phased implementation approach, using the recommendations from phase one to implement a pilot transaction in phase two. The aim of the phased implementation is to provide ERA an opportunity to develop a framework and test the robustness of the same through a pilot transaction.

Under Phase 1: Develop the Regulatory Framework, the consultant shall conduct a situational analysis of legal and regulatory environment, transmission investment

requirement, cross-border trading (power export and import) in light of the UETCL's licensed mandate, and develop an appropriate framework that will facilitate private sector investment in transmission segment.

Under Phase 2: Implementation of a pilot transaction, the consultant shall define the selected framework in detail, develop standardized documents and provide the Government of Uganda and its agencies the required support to carry out a pilot transaction under the approved framework.

Across the two phases of the assignment, the consultant shall extensively map out and consult critical stakeholders in the Electricity Supply Industry through a well-developed stakeholder mapping and engagement strategy. To ensure sustenance of the framework, the consultant shall develop and implement a capacity-building program of the selected offices in Government and its agencies charged with the implementation of the framework. There shall be technical committee constituted to provide technical guidance and support to the consultant during the delivery of the assignment through both phase one and two of the project. The technical committee shall be composed of and include but not be limited as appropriate to members from the MEMD, ERA, UETCL, Ministry of Finance, Planning and Economic Development (MoFPED), Ministry of Justice and Constitutional Affairs (MoJCA), and Sectoral Planning and Coordination Committee (SPCC). The detailed scope of works are presented in Section 5.

The consultant shall submit separate technical and financial proposals for Phase 1 and Phase 2. Funding for Phase 1 will be provided by Energy for Rural Transformation III (ERT-III) program of the World Bank, and funding for Phase 2 shall be provided by ERT-III or other sources of funding.

5.0 SCOPE OF PROJECT

5.1.1 PHASE ONE: DEVELOPMENT OF THE REGULATORY FRAMEWORK

TASK 1: REVIEW OF REGULATORY FRAMEWORK

The consultant shall review and analyze the existing Government Policies and regulatory framework relating to investments in the electricity sector transmission segment. The review of the legal framework shall in addition cover any supporting legislation including but not limited to the Land Act, Registration of Titles Act, Public Procurement and Disposal of Public Assets, Public Private Partnership Act, Electricity Act, Investment Act, National Environment Act, Technical Standards applicable to the transmission infrastructure and general tax codes among others. The purpose of the task shall be to

establish the legality and/or restrictions and vehicles (if any) for and against private sector investment in transmission infrastructure. The consultant shall be required to provide a report on the findings thereof, stipulating the status quo, challenges and associated risks, benefits and provide appropriate and relevant recommendations thereto, with clear implementable actions aligned to the proposed business model(s) for attainment of the highlighted objective.

TASK 2: DEVELOP FRAMEWORK FOR PRIVATE SECTOR INVESTMENTS IN TRANSMISSION INFRASTRUCTURE

Following a situational analysis of the transmission segment that shall take into account substantial development of cross-border trading and regional power pools, the consultant shall develop a regulatory framework including guidelines that provide the procedure for private sector investments in the transmission segment. The framework will streamline and point out any conflicts to the legal authorization and procedure for approval and implementation and verification of the proposed investments; the requisite capacity by prospective investors; the relevant tariff principles for determining costs of investments (if different from existing tariff determination principles), reporting requirements and role of the various key stakeholders, e.g. ERA, UETCL, Ministry of Finance, Planning and Economic Development (MoFPED), Ministry of Energy and Mineral Development (MoEMD), Solicitor General, Cabinet, Parliament etc. The framework shall detail principle-based legislation to provide a regulatory and legal foundation for the proposed investment. The Consultant shall in addition develop a clear roadmap for implementing of the recommendations aligned to the selected business model with proposed candidate transmission projects highlighting the associated risks, benefits and impact other players in the transmission segment. The Consultant shall also highlight the necessary transition arrangements required to be undertaken in the ESI of Uganda. The roles of MoEMD, MoFPED, ERA, Solicitor General, and UETCL before, during and after implementation of the transmission investments by the private sector should be clearly articulated. The roles of the private investor before, during and after implementation of the transmission investments shall also be clearly documented.

The Guidelines will expound on the provisions stipulated under the framework, for purposes of providing more details on the requirements and treatment of the proposed investments. The Consultant shall design cost recovery framework as part of the bulk supply tariff. The cost recovery framework/tariff methodology shall be aligned to the proposed business models.

The guidelines will include procedure for both competitive and unsolicited bids geared at ensuring value for money.

TASK 3: DEVELOP COST/BENEFIT METHODOLOGY AND MS EXCEL

The consultant shall develop a methodology and MS Excel tool to be used in evaluating the technical and financial viability of the proposed transmission investment to guide decision making. The methodology shall guide assessment of the technical viability of the proposed framework including assessing the estimated benefits arising from the investment, undertake cost benefit analysis and impact of the tariff in the short, medium to long term. In addition, the consultant shall recommend to ERA any engineering applications (software) required to generate inputs/outputs that complement the usage the MS Excel tool.

TASK 4: WORKSHOPS

The consultant shall deliver three (3) workshop at each critical stage of the assignment (under phase one) as follows:

- i) Presentation of the Inception Report with the proposed methodology and schedule to deliver the assignment (Workshop 1);
- ii) Presentation of the Draft Report; including dissemination of findings and stakeholder engagements purposed at building buy-in and selection of the desirable business model (Workshop 2); and
- iii) Presentation of the Regulatory Framework; validation of the proposed regulatory framework including selected business model and Cost Benefit Methodology (Workshop 3).

5.1.2 PHASE TWO: IMPLEMENTATION

Based on the outcome of Phase 1, the following tasks shall be undertaken under Phase 2 including a pilot transaction under the selected business model.

TASK 1: DEVELOP STANDARDIZED AGREEMENT(S)

The Consultant shall develop comprehensive standardized commercial and operational agreements, including but not limited to (as necessary) the Standardized Transmission Service Agreement, Standardized Implementation Agreement(if applicable),

Standardized Licence, Standardized bidding documents, Direct Agreement (if applicable), Standardized Interconnection Agreement, framework/guidelines, and other applicable agreements, necessary for implementation of the proposed framework, based on international benchmarks and best regulatory practice.

TASK 2: SOLICITATION OF PRIVATE TRANSMISSION DEVELOPER

The consultant shall support and provide comprehensive transactional and advisory support services to the Government and its agencies in the procurement of a Private Transmission Developer using an international competitive bidding process for the execution of a pilot project under the framework adopted. The consultant shall ensure that the relevant applicable procurement standards and guidelines are observed during the tendering process.

The consultant shall develop the standard bidding documents for the required qualification and evaluation stages as well as providing for quality assurance of the processes undertaken in the solicitation of the transmission developer. The outcome of this task will be selection of the best-evaluated bidder to implement the pilot project. The consultant shall further assess the success of the pilot private participation in transmission segment and document lessons learned from the pilot project for subsequent transactions.

TASK 3: TRANSACTION/TECHNICAL ADVISOR

Following the notification of the best-evaluated bidder under Task 1, the consultant shall be expected to provide transactional/technical advice to Government of Uganda and its agencies during the negotiations and implementation of the pilot project as well as the review of the transaction to identify lessons learnt for sustenance of the framework.

TASK 4: WORKSHOPS

The consultant shall deliver two (2) workshop at each critical stage (under phase two) of the assignment as follows:

- i) Presentation of the Standardized Agreements and Draft Solicitation documents aimed at to provide direction on the requirements under each task (Workshop 4), and;
- ii) Presentation of the Final Report (Workshop 5).

The objective of the workshops is to consult and build awareness with stakeholders during the assignment and adoption of the proposed framework after.

6.0 CAPACITY DEVELOPMENT PROGRAM

6.1 Training by the Consultant

Across the two phases of the assignment, the Consultant shall design a capacity building program that will be delivered to select ERA staff, UETCL staff and Government officers, with the view of enhancing capacity to operationalize the proposed regulatory framework, with a focus on tariff modeling and review; licensing (legal, financial, economic, technical and Environment); technical review, compliance monitoring; tendering and implementation of projects.

6.2 Specialized training

In order to adequately equip ERA, UETCL, MoEMD, MoFPED and other relevant Government agencies with the required knowledge and skills for the implementation of the framework, the consultant shall support such staff to undertake capacity building programmes that are relevant for implementation and sustenance of the desired transmission framework, such as:

- i) Development and negotiating of Transmission Service Agreements;
- ii) Public Private Partnerships Financial and Risk Analysis;
- iii) Public-Private Partnerships (PPP/P3) Certification;
- iv) PPP Structuring Legal Agreements and Concession Contracts;
- v) Financial Analysis Techniques for Infrastructure Projects;
- vi) PPP Strategies, Methods, and Project Structuring;
- vii) PPP Value for Money and Cost Benefit Analysis; and
- viii) Infrastructure in a Market Economy.

In addition, the Consultant shall identify and facilitate selected staff to undertake a benchmarking study in at least two jurisdictions that have undergone similar reforms in the transmission segment of the Electricity Supply Industry.

7.0 QUALIFICATION CRITERIA AND REQUIRED EXPERIENCE

The consulting firm should have completed at least five similar assignments in the power sector one of which should have been for a regulatory agency or a transmission company. The consulting firm should demonstrate its experience and knowledge of the electricity sector in Uganda, sub-Saharan African, and developing economies.

The consulting firm shall provide assurance that the proposed key personnel for this consultancy service agreement shall be available for the duration of the assignment. Change in the proposed key personnel at the time of contract award resulting from causes beyond the firm's reasonable control such as retirement, death, and medical incapacity shall be endorsed and approved by ERA before such a change takes effect.

As a minimum, the firm's core team of specialists shall comprise at least the following highlighted below; each with the requisite academic qualifications of at least a Master's degree or its equivalent in the professional field and demonstrable experience in undertaking similar assignments in the sub-Saharan African region, and developing economies.

Project Coordinator/Team Leader

The consultant shall assign a fulltime Project Coordinator who will be responsible for overall coordination of the Project and day-to-day communication with the Client.

- i. General qualifications
 - (a) *Minimum requirement*:- Masters graduate in Natural Resource Sciences or Engineering, Project and development finance, law or Energy or infrastructure related studies.
- ii. Adequacy for the assignment and language
 - (a) Must have carried out at least two similar assignments in the last 10 years;
 - (b) Must have a minimum of fifteen (15) years' experience senior management, out of which five of those years must be in a similar position; and
 - (c) Should be proficient in writing and fluent speaking in English.

Regulatory and infrastructure /Finance Lawyer

The Consultant's Team shall include a Regulatory Lawyer with proven understanding of international best practice and experience in infrastructure regulation and advisory services as well as Uganda's legal and regulatory framework with a specific bias to the electricity/power supply industry.

- i. General qualifications
 - (a) *Minimum requirement:* - Shall have a Bachelors of Laws Degree and a masters of law degree in regulation, project finance, infrastructure finance, commercial law, energy or related studies.
- ii. Adequacy for the assignment and language
 - (a) The regulatory/infrastructure finance Lawyer should have ten (10) years of experience in utility regulation or power project, infrastructure development and financing;
 - (b) Should be proficient in writing and fluent speaking in English language

Power Economist and Electricity Pricing Specialist

The consultant's team shall include a Power Economist and Electricity Pricing Specialist whose main responsibility shall be developing the cost benefit methodology and MS Excel Model for technical and financial viability.

- i. General qualifications
 - (a) *Minimum requirement:-* Masters graduate in Business-related field, Economics, Commerce and registered with a financial or accounting professional body.
- ii. Adequacy for the assignment and language
 - (a) Must have a minimum ten (10) years' experience in financial analysis of energy utilities and tariff setting including the transmission segment;
 - (b) Should be proficient in writing and fluent speaking in English language.

Power System Planning and Investments Specialist

The consultant team shall include a Power System Planning and Investments Specialist whose main responsibility shall be reviewing the current status quo, challenges, and risks and recommendations of the transmission segment in Uganda.

- i. General qualifications
 - (a) *Minimum requirement:-* Masters graduate in Electrical Engineering or Power Economics from a recognized university.
- ii. Adequacy for the assignment and language
 - (a) Must have a minimum ten (10) years' experience in system planning;
 - (b) Should be proficient in writing and fluent speaking in English language.

Power Engineer

The consultant shall engage a Power Engineer with vast experience in electricity transmission systems and system operation.

- i. General qualifications
 - (a) *Minimum requirement*:- Masters graduate in Electrical Engineering from a recognized university.
- ii. Adequacy for the assignment and language
 - (a) Must have a minimum ten (10) years' experience in electricity distribution systems;
 - (b) Should be proficient in writing and fluent speaking in English language.

Financial Analyst

The consultant shall engage a financial Analyst with adequate experience in undertaking financial and economic analysis.

- i. General qualifications
 - (a) *Minimum requirement*:- Masters graduate in finance or economics with a professional qualification.
- ii. Adequacy for the assignment and language
 - (a) These specialists should have ten (10) years of experience in financial analysis of energy utilities and tariff setting;
 - (b) Should be proficient in writing and fluent speaking in English language.

8.0 DURATION AND DELIVERABLES FOR THE ASSIGNMENT

8.1 Deliverables

The consultant shall provide the following deliverables during the assignment.

Milestone	Main Deliverable	Expectations
Phase One Deliverables		
a) Inception Report	Inception Report	<ul style="list-style-type: none"> • Consultant's understanding and critique of the Terms of Reference. • Proposed Methodology and Schedule to deliver the assignment. • Key Personnel for the assignment.
b) Draft Report	Situation Analysis Report	<ul style="list-style-type: none"> • Comprehensive review of the regulatory framework • Recommendations on suitable business model(s) • Gap Analysis and actionable roadmap to implement

Milestone	Main Deliverable	Expectations
		identified suitable business model(s)
	Framework and Guidelines	<ul style="list-style-type: none"> Regulatory framework for private sector investments in transmission sector
	Cost – Benefit methodology and MS Excel	<ul style="list-style-type: none"> MS Excel Models and manuals Supporting engineering software (if any)
	Stakeholder Engagement and Workshops	<ul style="list-style-type: none"> Stakeholder Mapping and Engagement strategy Workshop slides Workshop debriefs and reports
c) Capacity Building	Training Report	<ul style="list-style-type: none"> Capacity building to selected officers Job shadowing to ensure knowledge transfer during the assignment
d) Final Report	<ul style="list-style-type: none"> Framework and Guidelines Cost – Benefit Analysis methodology and MS Excel model 	<ul style="list-style-type: none"> Consultant’s comprehensive report on the delivery of the assignment incorporating stakeholders’ comments
Phase Two Deliverables		
a) Agreements and Bidding Documents	<ul style="list-style-type: none"> Templates for Standardized Agreements Solicitation Documents for the pilot transaction Stakeholder Engagements and Workshops 	<ul style="list-style-type: none"> Developed standardized agreements based on the adopted regulatory framework Developed bidding documents, evaluation criteria aligned to the relevant procurement guidelines
b) Contract for pilot transaction	<ul style="list-style-type: none"> Evaluation Report Contract Award to private sector investor 	<ul style="list-style-type: none"> Publication of bidding documents Due Diligence through the evaluation Negotiations with best-evaluated bidder

Milestone	Main Deliverable	Expectations
c) Capacity Building	<ul style="list-style-type: none"> • Training Report 	<ul style="list-style-type: none"> • Capacity building to selected officers • Job shadowing to ensure knowledge transfer during the assignment
d) Final Report	<ul style="list-style-type: none"> • Standardized Agreements • Final Framework & Guidelines • Standardized bidding documents • Contract Award/executed Agreements • Post-pilot transaction review report 	<ul style="list-style-type: none"> • Consultant's comprehensive report on the delivery of the assignment

8.2 Indicative Duration of the Assignment

The assignment shall be completed in a period of not more than eight (8) months from the date of award of the contract as shown in the chart below.

