



TERMS OF REFERENCE (TOR)

CONSULTANCY SERVICES

FOR

NATIONAL TECHNICAL SPECIFICATIONS AND STANDARDIZATION

UNDER

KENYA ELECTRICITY MODERNIZATION PROJECT (KEMP)

REFERENCE: KE-MOE-134600-CS-QCBS

APRIL, 2020

1. Background

1.1 The Government of Kenya (GoK) has received a loan from the International Development Assistance (IDA) towards financing the Kenya Electricity Modernization Project (KEMP) whose main development objectives are: (a) to increase access to electricity; (b) to improve reliability of electricity services; and (c) to strengthen Kenya Power and Lighting Company (KPLC) financial situation.

1.2 GoK has already applied a portion of these funds to develop the Kenya National Electrification Strategy (KNES). This Strategy, which is already being applied, aims at achieving universal access by 2022 through extension and densification of the existing medium and low voltage network where it is economical to do so. Areas far from medium and low voltage networks of the existing grid will be reached through Solar PV mini grids and standalone solar PV systems.

1.3 Primarily KPLC, Rural Electrification and Renewable Energy Corporation (REREC) and the private sector will implement this electrification program. Kenya Electricity Transmission Company (KETRACO) is also extending the electricity system to new areas around which KPLC and REREC will develop reticulation to connect households. In addition, Counties may also wish to develop their own reticulation.

1.4 Kenya Electricity Infrastructure

Table 1: Kenya Electricity Infrastructure

Item	Description	Value	
1.	Total Customers (KPLC, REP)	6,761,090	
2.	Installed generation capacity	2,351 MW	
3.	Peak demand	1882 MW	
4.	Primary substations installed(400/220kV, 220/132/66kV, 132/66/11kV, 132/33kV, 132/11kV, 66/11kV, 33/11kV)	Capacity	12,608 MVA
		Number	337
5.	Secondary substations installed(33/0.42kV, 11/0.42kV)	Capacity	7,606 MVA
		Number	67,352
6.	Length of High Voltage (400kV, 200kV, 132kV, 66kV) Transmission lines	5,564 km	
7.	Length of Medium Voltage (33kV and 11kV) Distribution lines	74,644 km	
8.	Length of Low Voltage (400/230V) lines	152,803 km	
9.	Transmission lines owned and operated by KETRACO	400kV, 220kV and 132 kV AC	1,799km
		500 kV DC Ethiopian Interconnector	1100 km

- 1.5** There is a substantial standalone medium (11kV and 33kV) and low voltage (230/400V) network covering urban, peri-urban and rural areas supplied from renewable energy sources like solar, wind, mini-hydros and small diesel fired stations.
- 1.6** KPLC is the single off-taker in the country. KETRACO plans, develops, and operates high voltage transmission grid and regional power interconnections from 132kV voltage level and 500kV, AC and DC, while REREC develops rural electrification extensions to the KPLC network, at medium (11kV and 33kV) and low (230/400V) voltages as well as standalone networks connected to renewable energy resources on behalf of GoK. The overall standardization system is centralized through Kenya Bureau of Standards (KEBS) but Energy and Petroleum Regulatory Authority (EPRA), the regulatory authority, promotes and monitors implementation of the electricity sector technical regulations.
- 1.7** Standardization and Conformance are essential for a robust infrastructure that meets the reliability, quality of supply and quality of service requirements of the existing legal and regulatory framework underpinned in the Energy Act 2019, the National Energy Policy 2018, Kenya National Transmission and Distribution Grid Codes 2016, The Public Procurement and Disposal Act 2015, KPLC STIMA Charter, and other technical regulations implemented by EPRA for which compliance is mandatory.
- 1.8** Under the new look electricity market envisaged under the Energy Act 2019, transmission, distribution and retail licensees will differ greatly in their mandate, structure and modus operandi. These entities face a range of constraints limiting their participation in standardization, especially their ability to implement international standards. The key drivers include: emerging trends in renewable energy resources; distributed generation; increasing supply of electricity and at higher transmission voltages in both AC and DC requiring more stringent designs, testing and enhanced construction practices; need for greater electricity at affordable rates; facilitation for non-discriminatory open access and standardization of materials that meet both applicable National Standards by Kenya Bureau of Standards and International Standards e.g. ISO and IEC, among others.
- 1.9** Given the multiplicity of players who will extend and connect to the electricity system in the country, there is need to have commonly accepted design, construction; testing and commissioning; operation and maintenance standards; codes of practice and work practices.
- 1.10** Therefore, the GoK intends to apply a portion of the proceeds of the above said loan to hire a consultant to review design, construction, testing and commissioning; operation and maintenance standards, practices as well as codes of practice for the electricity system in the country, identify gaps and develop updated national design and construction standards and practices, new or modified construction units (a construction unit is a group of items that incorporates materials and equipment for portion of a network, say a Transformer H-Pole, terminal pole, Medium Voltage earthing, etc, together with the labour, transport and supervision required to install it, which are then costed as a unit) aimed at driving costs of connectivity down as well as codes of practice for testing and commissioning; operations and maintenance.

2. Objectives of the Technical Assistance Consultancy

2.1 General Objective

The primary objective of the Technical Assistance is to develop comprehensive and updated technical standards and specifications for design and construction of the distribution system. It is expected that the study will come up with proposals for technically and economically optimized design and construction of electricity networks to support the connection of new users located in underserved areas, meeting applicable standards on service quality. It is also intended to increase the capacity for preparation, adoption, application and dissemination of technical standards to promote a culture of quality, hence contribute effectively towards achieving an electricity infrastructure of quality, reliability and safety.

2.2 Specific Objectives

The specific objectives include;

- 2.2.1 To identify the quality, standardization and conformance challenges facing KPLC, KETRACO, REREC and EPRA in technical and economic optimization of the design and construction of electricity networks as well as gaps in technical standards and specifications preparation, adoption, application, dissemination and compliance to adapt and keep abreast with technological advancements and best practice as well as national, regional and international standards.
- 2.2.2 To perform a Situational and Gap Analysis and to some extent Age Analysis to establish the baseline level of preparation, adoption, application and compliance to technical standards and specifications and identify solutions to bridge any gaps with reference to technical and economic optimization of the design and construction of electricity networks through low cost technologies in line with International Standards and best practice
- 2.2.3 To conduct a preliminary technical and cost assessment and review of the existing KPLC construction units, key Functional Specifications/Technical/Design/Construction Standards and Specifications with associated procedures, codes of practice, testing and acceptance protocols of essential materials and equipment and construction standards in transmission and distribution networks and identify the gaps, technical conformance, incompatibility or disproportionate technical differences, as far as practicable, compared with the desirable international best practice.
- 2.2.4 To carry out a detailed technical audit through field inspections of the transmission and distribution infrastructure to establish the level of standardization in design, selection of materials and equipment and quality of installation and construction practices attested to traceable and recognized standards, such as IEC, ISO, BS, ASTM, IEEE, ITU etc.
- 2.2.5 To conduct a detailed review of the transmission and distribution design and construction standards and construction units, operation procedures and guidelines, installation testing and commissioning procedures, project management practices, technical data and drawings, installation and work practices of the aspects that are of greatest interest to transmission and distribution infrastructure upgrade to international standards and norms covering urban, peri-urban and rural areas and propose appropriate cost reduction strategies supported with detailed case studies and

- suitable adjustments in construction units and cost-effective methods to reduce connection costs, including life cycle cost assessments.
- 2.2.6 To facilitate workshops and technical working groups/technical committees to review Technical Specifications and standardization of the most critical materials and equipment to meet national and international standards.
 - 2.2.7 To establish a Code of Practice for the preparation, adoption and application of technical specifications, standards, and technical regulations for good regulatory practice by EPRA to provide consistency and to instruct construction actors on the quality of the workmanship, and of quality assurance.
 - 2.2.8 To map out and analyze the entities involved in standardization activities at national, regional and international levels and establish the level of benchmarking and cooperation in standardization, metrology, accreditation, calibration, testing, certification and inspection.
 - 2.2.9 To identify the type of opportunities, initiatives and investments needed to bolster and support a demand (stakeholder) driven and coordinated development of standards through a robust Partnership Framework of joint-action, benchmarking, technical collaborations and partnerships and other institutional capacity building approaches.
 - 2.2.10 To propose a sustainable National Specifications and Standards Development Program involving all the relevant stakeholders in the process of specifications and standards setting, review and periodic updates, amendment, and implementation and feedback to ensure specifications exist for no more than 7 years in their current edition before being subjected to a review process to reconfirm, revise or remove any obsolete or superseded standard, especially if any international standard has been revised or removed, as is often the case, so as to be concurrent in adopting international standards to the maximum extent possible.
 - 2.2.11 To develop a clear short-, medium-, and long-term Roadmap and Implementation Plan of preparation, adoption and application of new or revisions of technical standards and specifications supported by access to established international standards and conformity assessment tools.
 - 2.2.12 To maintain a contemporary National Specifications and Standards Document Repository and Retrieval System and database accessible to all stakeholders involved in standardization and conformance through a subscriber's web-based portal, which flags documents that are more than 7 years in their current edition.
 - 2.2.13 To propose appropriate mechanisms to be put in place to establish a body of technical experts involved in writing the technical standards and specifications and propose programs for human capital/administrative capacity building on knowledge and skills transfer, mentoring and twinning, benchmarking arrangements, staff exchange and secondment/apprenticeship programs in line with best practices.
 - 2.2.14 To propose appropriate mechanisms to bridge skills gaps through a body of highly-trained staff/technical experts involved in the practice of testing equipment, laying and repair of underground cable networks, setting and testing system protection schemes, inspection and testing of electrical plant, project design and approval, project management and construction practices, and testing and commissioning of specialized equipment and projects.
 - 2.2.15 To propose capacity building initiatives through accreditation courses/competency certification schemes for specialized fields e.g. HV cable jointers, underground cable fault location, plant and equipment commissioning and acceptance inspection.

- 2.2.16 To propose critical needs for potential investments in scientific and technical infrastructure, including testing laboratory facilities, research facilities, technical libraries/information sources, and access to relevant national and international standards, scientific and technical journals and books and a comprehensive documentation database.
- 2.2.17 To establish quantitative standardization and conformance KPIs to measure quality of projects and the performance of the constructed infrastructure.
- 2.2.18 To make appropriate recommendations on how to develop local standardization and conformance capacity as well as of standards-setting in electricity transmission, distribution and retail networks.

3. Scope of Services

The Consultant will be required to offer all the consultancy services necessary to achieve all the stated objectives.

The specific tasks (activities) of the consultancy will include not less than the following activities: -

3.1 Task 1: Assessment of the current situation.

This task will identify the current situation with regard to the quality, standardization and conformance challenges facing KPLC, REREC KETRACO, and EPRA and propose mitigations. The consultant will:

- 3.1.1 Perform a Situational and Gap Analysis (and Age Analysis), including the Utilities' Quality, Standardization and Conformance challenges and proposed mitigations;
- 3.1.2 Conduct a Preliminary Documentation Review of the uppermost Functional Specifications/Technical / Design/Construction Standards Specifications with associated procedures and codes of practice.
- 3.1.3 Carry out a detailed Technical Audit through field inspections of the transmission and distribution infrastructure and establish the level of standardization in design, selection of materials and equipment and the quality of construction practices based on traceable and recognized standards.
- 3.1.4 Identify gaps, age of standards and any challenges the organizations face in the preparation, adoption and application of construction units, standards, specification and codes of practice.

3.2 Task 2: Revision and Updating of Design and construction standards, installation testing and commissioning procedures.

The consultant's contract will include the revision and updating of EDM standards and designs for distribution network in urban, Peri-urban and rural areas in order to reduce the cost per new customer connection and per unit load for future projects, implemented by EDM and independent mini-grid operators. The consultant will also be required to review the design and construction standards, installation testing and commissioning procedures

and project management practices; technical data and drawings; and installation and work practices as follows:

- 3.2.1 Prepare a detailed review of the technical specifications and standards of the materials and equipment listed in Table 2 as to meet national and international standards through related workshops, technical working groups and validation technical committees. The draft specifications and standards of the recommended changes shall be presented in text and format ready for recommendation to the client for approval;
- 3.2.2 Carry out a detailed review of the respective design and construction standards, specifications, codes of practice and construction units in transmission and distribution line work, substations, switchgear and control and protection equipment within KPLC, KETRACO and REREC. Identify optimum options for design and construction of all components of transmission and distribution infrastructure to achieve acceptable levels of quality of service in electricity supply to end users;
- 3.2.3 Develop a comprehensive framework and tools for validation and verification of materials and equipment and project works to ensure conformance to traceable and recognized standards in line with best practices;
- 3.2.4 Propose a National Specifications and Standards Document Repository and Retrieval System containing a complete catalogue/database of all relevant standards and specifications, national and international information resources from standards-setting bodies and conformity assessment tools and is accessible to all stakeholders through a subscribers web-based Portal;
- 3.2.5 Establish quantitative standardization and conformance KPIs to measure quality of projects and the performance of the constructed infrastructure.

3.3 Task 3: Preparation of a National Specifications and Standards Development Program.

This task will propose a National Specifications and Standards Development Program and associated Short-, Medium-, and Long-Term Roadmap and Implementation Plan, as well as the institutional framework, to ensure specifications exist for no more than 7 years in their current edition as follows:

- 3.3.1 3.3.1 Map out and analyze entities involved in standardization, metrology, accreditation, calibration, testing and certification and inspection at national, regional and international levels;
- 3.3.2 Propose a robust partnership framework with such entities in order to bolster and support development of standards in the future. This would involve, among other things, the establishment of benchmarking and cooperation with KPLC, KETRACO and REREC;
- 3.3.3 Identify the most important needs for potential investments in scientific and technical infrastructure.
- 3.3.4 Prepare Code of Practice for the preparation, adoption and application of technical specifications, standards, and technical regulations for good regulatory practice by EPRA.
- 3.3.5 Prepare a Monitoring and Evaluation Framework of the program and recommended actions of developing local standardization and conformance capacity in standards-setting within for electricity transmission, distribution and retail networks.

3.4 Task 4: Proposal for requisite capacity building to target technical standardization experts and specialized equipment testing experts.

Under this task, the Consultant will propose requisite capacity building to target technical standardization experts and specialized equipment testing experts, and specifically:

- 3.4.1 Establish appropriate mechanisms to bridge skills gaps in equipment testing, underground cable networks, overhead networks, system protection schemes, electrical plant, testing and commissioning of specialized equipment and projects;
- 3.4.2 Undertake capacity building initiatives through accreditation courses/competency certification schemes for specialized fields e.g. HV cable jointing and terminations; and
- 3.4.3 Establish appropriate mechanisms to put in place a body of technical experts involved in research and writing the technical standards and specifications and propose programs for human capital/administrative capacity building in line with best practices.
- 3.4.4 Prepare a Short-, Medium-, and Long-Term Plan of Action for strengthening capacity to meet present and future requirements, detailing the initiatives, potential collaboration institutions and budget.

4 Training and Workshops

- 4.1 The consultant shall convene a 1-day stakeholder's consultative forum 2 weeks after presentation of the Interim Report. The consultant will organize and pay for the venue within Nairobi for about 50 participants.
- 4.2 The consultant shall convene a 1-day stakeholder's consultative forum 2 weeks after presentation of the Draft Final Report. The consultant will organize and pay for the venue within Nairobi for about 50 participants.
- 4.3 The consultant shall convene a 1-day stakeholder's consultative forum after presentation of the Final Report. The consultant will organize and pay for the venue within Nairobi for about 50 participants.
- 4.4 The consultant will be expected to undertake and meet the cost of training in standardization and conformity assessment in the key sector utilities as part of the deliverables.
- 4.5 The training shall be for 5 days on the developed tools/platforms for key stakeholders in the power industry involving staff from EPRA, KPLC, KETRACO, REREC, GDC and key Ministry of Energy staff after the presentation of the final draft report. About 20-30 participants will benefit from this training.

5 Consultancy Administration

Activities to be performed under this assignment by the Consultant will be part of the Kenya Electricity Modernization Program (KEMP). The Consultants will report to the Client's Project Implementation Team (PIT). No report or document related to this assignment shall be distributed to third parties prior to the approval by PIT. The deliverables and supporting material from this consultancy shall be the property of the GoK.

6 Documents to be Reviewed

A detailed list of all specifications and standards to be reviewed will be provided by KPLC, and to some extent KETRACO and REREC, where applicable. EPRA will provide technical regulations. The proposed new documents which are currently not existing and listed in Table 2 below, are expected to be prepared by the Consultant, as well as review the existing ones.

Table 2: Status of Relevant Documents to be Reviewed and Developed

	Category	Existing Documents (to be reviewed)	Proposed New Documents (Not Existing, to be Developed)
1	Specifications	<ul style="list-style-type: none"> i. HV (66kV, 132kV, 220kV, 400kV), Power, Distribution and Instrument Transformers; ii. switchgear and control gear; iii. overhead line support structures; iv. overhead line hardware; v. conductors and conductor accessories; cables & cable accessories; vi. energy meters and metering accessories; vii. insulators and insulator fittings; viii. electrical protection relays, batteries and regulators; ix. electrical system tools, personal protective equipment, instruments and test equipment; x. Building materials and Civil works xi. Chemicals and gases 	<ul style="list-style-type: none"> i. SCADA systems and devices ii. Power Telecoms iii. Smart grid technologies iv. GIS Switchgear standards v. Net metering systems standards vi. Hybrid and non-hybrid off-grid systems standards vii. Construction Units for renewable energy technologies i.e. solar, wind, etc. viii. Metering systems/arrangements ix. Grid-tied distributed generation integration/interconnection standards x. Environmental conditions and interaction of the infrastructure with the flora and fauna
2	Power System design and construction Standards	<ul style="list-style-type: none"> i. Distribution network Design Standards ii. Overhead lines construction handbook 	<ul style="list-style-type: none"> i. EHV, HV, overhead and underground networks and accessories, ii. Earthing systems, iii. Equipment installation, testing and commissioning procedures. iv. Smart Grid technologies v. Grid-tied renewable generation and

	Category	Existing Documents (to be reviewed)	Proposed New Documents (Not Existing, to be Developed)
			vi. integration/interconnection standards Metering systems/arrangements
3	Codes of Practice (Design, Installation, Testing, Commissioning and Maintenance)	<ul style="list-style-type: none"> i. Single Wire Earth Return (SWER) network ii. Live Line work iii. Electrical power transmission and distribution — Overhead power lines for conditions prevailing in Kenya — Part 1: Code of practice 	<ul style="list-style-type: none"> i. Street lighting ii. Electrical plant and protection equipment installation, testing, commissioning and maintenance; iii. Transmission and distribution lines construction, testing and commissioning; iv. Underground cable network laying, jointing, termination, testing and commissioning; v. Project design and equipment approvals; vi. Protection schemes coordination; vii. Testing and acceptance of materials and equipment; viii. Net metering

7 Reference Documents to be Provided by the Client

The Consulting firm will also be required to review the following documents in so far as they relate to this assignment: -

- a) The Energy Act, 2019 and the regulations there under;
- b) Kenya Electricity Grid Connectivity, 2016
- c) Kenya National Transmission Grid Code (KNTGC), 2016
- d) Kenya National Distribution Code (KNDC), 2016
- e) The Public Procurement and Disposal Act 2015
- f) KPLC Design and Construction Standards in EHV, HV, MV, and LV networks.
- g) KPLC product specifications
- h) KPLC construction units
- i) Any other relevant materials for purposes of carrying out this assignment.

8 Team Composition and Qualification Requirements for the Key Experts

8.1 The Consultant is expected to assemble a team, under the leadership of an experienced team leader, comprising of at least the following international and/or local experts and this will be part of the criteria to be applied in the selection of the consultants(s):

- a) Team Leader/Project Manager must be a graduate in Electrical Engineering and possessing a post-graduate degree in Electrical Engineering. He/she should have at least 15 years of international experience in the design and implementation of standardization programs related to the transmission, distribution and retail of electricity including preparation, adoption and application of technical standards and specifications attuned to international standards. He/she must have at least 10 years in senior management, 3 of which must be in a similar position of Project Manager. The Project Manager will be responsible for the overall coordination of the Consultant's services to ensure the satisfactory fulfillment of the requirements of the Terms of Reference. He / She should be able to lead the project design team and be capable of handling the design during detailed engineering design review and so on. The Project Manager should be an individual with good communication skills in the English language, both written and verbal and a high sense of organization and responsibility. The Project Manager should have experience in similar project coordination in developing countries, preferably in African countries. He shall execute overseeing responsibilities.
- b) Plant and System Protection Engineer of not less than 10 years' experience, 3 of those years must be in senior management. He/she must have knowledge and experience in transmission and distribution system protection with considerable generation from Wind and Solar PV.
- c) Electrical Plant Testing and Commissioning Expert with at least 10 years' experience in testing and commissioning of transmission and distribution projects.
- d) Technical Expert with at least 10 years' experience in standardization and conformity assessment activities at national/international standards committees e.g. IEC, IEEE, ISO Technical Committees etc.
- e) Electrical/Civil/Mechanical Engineer with at least 10 years' experience in design and construction of distribution and transmission lines.
- f) Electrical Engineer who must have at least 10 years' experience in transmission and distribution underground networks design, installation and maintenance.
- g) Engineering expert who must be a graduate in electrical engineering with at least 5 years' experience in the Smart Grid Technologies.

8.2 All members of the team must be academically and professionally qualified with a first degree or higher, and 10 years relevant working experience in their area of

expertise in the power sector. At least 2 members will be expected to have a deep understanding of the Kenyan Electricity Sector. All the professional staff must be fluent in the written and spoken English. Consultants may associate to enhance their qualifications.

9. Reporting Requirements and Time Schedule for Deliverables

- 9.1 The work is expected to commence immediately after contract signing and will be for a period of 12 calendar months. The Consultant will provide all the necessary expertise and services to enable the task to be completed within the agreed duration of the contract.
- 9.2 The consultant will work closely with the Infrastructure Development Division of KPLC, which is responsible for Standards, as well as the Ministry of Energy to ensure that the expected results are realized during the study.

10. Timelines, Deliverables and Weighting

The consultant will deliver the following outputs:

- 10.1 An Inception Report, within 1 (one) month after the commencement of the services, which among others will give the consultant's interpretation of the terms of reference, present a technical approach to the work and allocate duties to the consultancy team including a time allocation schedule.
- 10.2 An Interim Report within 2 (two) months after the commencement of the services detailing aspects of the consultancy and covering the scope specified in Task 1
- 10.3 A Draft Final Report detailing all aspects of the study covering the entire scope of the Consultancy within 11 months after the commencement of the services.
- 10.4 A Final Report within 12 (twelve) months after the commencement of the services incorporating comments from stakeholders as collected during the stakeholder's workshop.
- 10.5 A Capacity Building Report focusing on pertinent aspects on standardization and conformance.
- 10.6 The Consultant shall prepare and submit (12) soft and (12) hard copies of the reports specified above to the MoE, for onward distribution to the key stakeholders for noting, comments and approval as appropriate.
- 10.7 The following indicative effort is envisaged on the assignment:

Table 3: Timelines, Deliverables and Effort Weighting

Major Activities	Major Outputs	Estimated Completion time	Weighted Effort (%)	Approval time

Task 1: Assessment of the current situation.	(1) Inception Report containing: (i) Consultant's understanding of TORs; (ii) Conceptual design, proposed methodology and approach; (iii) Consultancy structure, tentative work plans, and time schedules;	1 month	5	1 week
	(2) Interim Report containing: (i) Situational and Gap Analysis; Preliminary Documentation Review; (ii) Technical Audit, and; (iii) Stakeholder consultations	2 months	20	2 weeks
Task 2: Design and construction standards, installation testing and commissioning procedures review.	(1) Draft Final Report containing: (i) Drafts of Materials and Equipment Technical Specifications and Standards; (ii) Drafts of Design and Construction Standards, Codes of Practice and Construction Units; (iii) Framework and Tools for Validation and Verification of Materials, Equipment and Project Works; (iv) Standardization and Conformance KPIs; (v) National Specifications and Standards Document Retrieval System and subscribers web-based Portal; (2) Stakeholder consultations (3) Final Report	5 months	45	1 month
Task 3: Preparation of a National Specifications and Standards Development Program.	(1) Draft Final Report containing (i) National Specifications and Standards Development Program; (ii) Short-, Medium-, and Long-Term Roadmap and Implementation Plan; (iii) Analysis of entities involved in standardization Report; (iv) Partnership Framework to bolster and support development of standards; (v) Potential investments in scientific and technical infrastructure; (vi) Code of Practice for the preparation, adoption and application of technical specifications and standards; (vii) Monitoring and Evaluation Framework; (2) Stakeholder consultations	3 months	20	2 weeks

	(3) Final Report			
Task 4: Proposal for requisite capacity building to target technical standardization experts and specialized equipment testing experts.	(1) Draft Final Report containing (i) arrangements to bridge skills gaps in specialized equipment and projects; (ii) Accreditation courses/competency certification schemes for specialized fields; (iii) Body of technical experts involved in writing the technical standards and specifications; (iv) Short-, Medium-, and Long-Term Plan of Action for strengthening capacity (2) One (1) training workshop for 5 days on the developed tools/platforms for key stakeholders in the power industry involving staff from EPRA, KPLC, KETRACO, REREC, GDC) and key Ministry of Energy staff after the presentation of the final draft report. (3) Stakeholder consultations (4) Final Report	1 month	10	2 weeks
	Total	12 months	100	

11. Responsibilities of the Client

The client will undertake to provide the following:

- 11.1 The client will nominate a Project Manager and Project Implementation Team (PIT) from KPLC, EPRA, REREC and KETRACO to work with the Consultants during the assignment.
- 11.2 The client will provide appropriate administrative support to the Consultants as and when needed.
- 11.3 All relevant reports, specifications, standards and other available relevant documents as well as existing policy and legislative documents will be availed to the Consultants on request.
- 11.4 Access to controlled electrical facilities/infrastructure will be organized upon request by the Consultant.

12. Responsibilities of the Consultant

- 12.1 The Consultant will provide his own office accommodation and facilities for his use during the period of the assignment.
- 12.2 The Consultant will be expected to pay for any arrangements agreed upon by him/her and any other third parties. The client will not pay for such costs.