



**REPUBLIC OF KENYA**

**MINISTRY OF INDUSTRY, TRADE AND COOPERATIVES**

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**KENYA PETROLEUM TECHNICAL ASSISTANCE PROJECT**

**TERMS OF REFERENCE**

**FOR**

**CONSULTANCY SERVICES FOR REVIEW AND UPDATE OF OIL AND GAS  
STANDARDS**

**COMPONENT C – SUSTAINABLE IMPACT OF OIL AND GAS INDUSTRY –  
REFORMS AND CAPACITY BUILDING**

**SUB-COMPONENT C.1.2 - STIMULATE THE DEVELOPMENT OF DOWNSTREAM  
OIL AND GAS INDUSTRY.**

**IMPLEMENTING AGENCIES –MINISTRY OF INDUSTRY, TRADE AND  
COOPERATIVES AND KENYA BUREAU OF STANDARDS**



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**JULY 2017**

## A. Background

Oil exploration in Kenya began in 1954 before Kenya's Independence, after which upstream activities continued in varying intensities with a number of dry wells being drilled. In 2012, Tullow Oil announced the discovery of an oil potential of 300 million barrels of oil in Turkana rekindling Kenya's prospects of becoming an oil producing nation. So far nine discoveries have been made in South Lokichar Basin and with estimated recoverable resource at over 750 million barrels of oil, with the possibility that it will exceed 2 billion barrels of oil. Gas discoveries have also been reported Offshore Lamu and in the Anza basins. On the economic front, Kenya's GDP growth averaged at 5.3% between 2012 and 2015 and is projected to grow at 5.9% in 2016. The long term economic outlook is for annual GDP growth of 6.6%. Economic growth has led to the development of a downstream oil industry that has functioned independently from upstream activities being mainly serviced by imported products. Discovery of significant hydrocarbons that will make Kenya an oil producing nation will require the alignment of an established downstream sector to the new upstream sector. In addition to a fairly established downstream oil sector, growth in the economy has also led to increasing demand for power driven by a growing population, an established and growing manufacturing industry, and increasing urbanization. With prospects for indigenous gas and its potential role in the power sector, major gas finds could steer how the power sector evolves in the medium and long term calling for careful planning of how this is actualized.

One of the major issues of concern for the Government of Kenya is to develop real local content aligned to the separate phases of each Oil and Gas sector development and with the capacity of Kenyan industries to supply to the standard of Oil and Gas requirements.

This assignment is designed to assist Kenya Bureau of Standards (KEBS) to develop standards and support local content development and assure the economic viability of Oil and Gas projects. The assignment is being undertaken under the Kenya Petroleum Technical Assistance Project (KEPTAP), implemented by the Government of Kenya with financing from the World Bank Group. The objective of KEPTAP is to *“strengthen the capacity of the GoK to manage its petroleum sector and wealth for sustainable development impacts.”*

This assignment is under the Ministry of Industry, Trade and Cooperatives (MOITC).

## **B. Objectives**

The objective of this assignment is to review existing standards for upstream, midstream and downstream Oil and Gas, identify gaps in standardisation and provide recommendations.

## **C. Scope of Work**

The scope of work for this consultancy will be to assist KEBS and MOITC to review existing standards for upstream, midstream and downstream Oil and Gas, determine standardization deficiencies or gaps that may hinder local participation and integration into the supply chain of the petroleum sector , identify key potential standardization areas in upstream, midstream and downstream to support local supply of goods and services to the Oil and Gas industry including indirect services like construction and induced services, and provide recommendations for addressing these gaps.

The specific tasks to be undertaken include among others:

### **1. Standards Development**

The scope of work will involve the following:

- a) Review existing standards and the National Standardization Plan 2017-2019 (NSP) to identify Oil and Gas Standards required by the industry and produce a Gap Analysis Report so as to incorporate omitted areas of standardization for inclusion in the NSP;
- b) Benchmark standards against other East African as well as West African countries.
- c) Assess the capacity of KEBS staff to effectively develop oil and gas industry standards and identify gaps in the skills and competencies for the secretariat to develop the necessary standards;

### **2. Quality Assurance Department**

The Quality Assurance Department carries out two product certification schemes i.e. the Standardization Mark (S-Mark) which is a mandatory product certification scheme for locally manufactured products provided for under section 10 of the Standards Act Cap 496, Laws of Kenya and the Diamond Mark of Quality (D-Mark) which is a voluntary mark of excellence awarded to manufacturers (either based locally or abroad) who have demonstrated high degree of excellence in product manufacturing and quality.

D-Mark permit holders thus qualify automatically for the standardization mark (SM) without any additional requirements. The permit to use the mark is valid for period of three years subject to satisfactory quality performance and full compliance to other contractual obligations signed between KEBS and the permit holder.

The Product Certification Schemes provide confidence to consumers of the certified products that such products meet stringent quality requirements and therefore can be used by local content suppliers as an assurance scheme to penetrate markets in the oil and gas industry.

The consultant will

- a) Assess the capacity of KEBS staff to effectively carry out quality assurance in the oil and gas industry and identify the skills and competencies needed.
- b) Review existing product certification schemes in line with international best practices for the Oil and Gas industry and make recommendations on how to implement new certification schemes in Kenya and develop local capacity to audit/assess/certify.

### **3. KEBS National Quality Institute and Certification Body**

The National Quality Institute (NQI) was established on 18<sup>th</sup> February 2008 with the core mandate of entrenching a culture of quality in the Kenyan society. In addition to this noble duty NQI, advances quality management principles, practices and techniques within the Kenyan industry in support of vision 2030. As champion of the quality movement, NQI offers technologies, concepts, tools, and training to industry, quality professionals, quality practitioners and everyday consumers to entrench quality in our daily lives. It is the vision of KEBS that NQI will be used to support capacity building for suppliers to oil and gas industry to meet the stringent requirements demanded by both Direct, Indirect Service providers.

The KEBS Certification Body (KEBS CB) is one of the leading Certification bodies in the East and Central African Region engaged mainly in System Certification and Personnel Registration. Currently the KEBS CB is accredited by the Dutch Accreditation Council, RvA to ISO /IEC 17021: Conformity assessment – Requirements for bodies providing audit and certification of Management Systems and seeks to increase its scope of accreditation to the Oil and Gas sector. The consultant will

- a) Review the existing training on management systems and identify gaps with reference to oil and gas industry requirements
- b) Assess the capacity of KEBS staff to effectively train for oil and gas industry and identify the skills and competencies required;
- c) Review the existing certification and accreditation scopes provided by KEBS CB and identify gaps with reference to oil and gas industry requirements

### **4. Inspection and Market Surveillance Departments**

The Inspection Department carries out Quality Inspection of Imports in Kenya through the Pre-Export Verification of Conformity to Standards (PVoC) which is a conformity assessment scheme to ensure health, safety and environmental protection from goods imported into Kenya operating under the ambit of Legal Notice No. 78 of 15th July, 2005. The program is also fully compliant with the provisions of Article 5 of WTO TBT Agreement. Products meeting requirements of this scheme are issued with a Certificate of Conformity (CoC) and for some sensitive products an Import Standardization Mark of Quality (ISM).

The Market Surveillance Department carries out market surveillance of all products in the Kenyan market to ensure compliance with the requirements of Kenya Standards with regard to health, safety and environmental protection.

The consultant will

- a) Review the existing market surveillance practices and identify gaps with reference to oil and gas industry requirements
- b) Assess the capacity of KEBS staff to effectively carry out surveillance for oil and gas industry and identify the skills and competencies required;

## **5. Metrology Department**

The Kenya Bureau of Standards Metrology department is mandated to realize, maintain and disseminate the SI units of measurements for Kenya. KEBS became a full member of the General Conference of Weights and Measures (CGPM) of the Metre Convention and a signatory of the Committee of Weights and Measures Mutual Recognition Arrangement (CIPM-MRA) since Jan 2010.

The Metrology department is accredited by DaKKS for calibration in Mechanical Metrology, Laboratories, Electrical Metrology, Laboratories, Mass, Pressure, Temperature, Density, Viscosity, Force, Volume and Flow, Dimensional Metrology, Time and Frequency, AC/DC (Direct Current and Low Frequency measurements, Energy and Transformer, Photometry, Acoustics and Vibration and Dosimetry (Ionising radiation). The consultant will

- a) Assess the existing capacity of KEBS Metrology department including equipment, and staff skills and competencies and identify gaps that could hinder support to the oil and gas industry

## **6. Testing Department**

The primary function of the testing services is to provide tests in areas of Chemistry, Food, Microbiology, Material Engineering and Textiles. The test services are offered to both internal and external customers. It provides testing services to a wide range of clientele that include, but are not limited to: Manufacturers, Exporters, Non-governmental Organizations, Government Departments, Research institutions, Merchants and KEBS Quality Inspectors who implement Kenya Standards.

The current laboratory throughput is 48,000 samples per year. The tests on products are carried out against national standards, International standards, specific Government and other client specifications. The testing Department is therefore instrumental in supporting the local content providers as well as IOCs to meet their testing needs. The consultant will

- a) Assess the existing capacity of KEBS Testing department including equipment, and staff competence and identify gaps that could hinder support to the oil and gas industry
- b) Identify gaps in Personnel Certification for Non-Destructive Testing (NDT) with respect to oil and gas industry

## **7. Market Appraisal**

- a) Identify laboratory services providers in Kenya that can deliver services to the oil and gas sector to the required standard. The client requires basic data on each with regard to:
  - Registered business name
  - Locations(s)

- Services on offer
- Status with international accreditation bodies (for the services on offer) including their accreditation scopes
- Services that are applicable to the oil and gas sector
- Numbers of staff
- Quality of facilities

These data must be validated with appropriate evidence.

- b) Identify gaps of laboratory service providers.
- c) Assess which laboratory services could be done by independent providers and which services should be done by KEBS facilities.

## 8. Recommendations

- a) Make recommendations on bridging the gaps identified
- b) Develop a clear strategy and related implementation plan based on the above analysis, with sequenced activities.

The following are illustrative of what should be covered:

- a) Describe the technical, organizational and skills gaps that need to be closed to realize the potential in order to support oil and gas industry. Propose and rank 'gap closing measures' in a cost-benefit approach.
- b) Recommendations on how to address gaps identified in the areas of standards development, testing, metrology, quality assurance, market surveillance, certification and national quality institute
- c) Conceptualize the structure/design of a supplier and SME standardization support program
- d) Review existing Kenyan policies, regulations, and legislative framework on standardization for oil and gas, and make recommendations.
- e) Provide a listing of priority testing and metrology equipment required to close the equipment gaps
- f) Make any recommendations as per international best practice as a per benchmarking against other African countries

## D. Duration Of The Assignment

The duration of this assignment is expected to be a maximum of six (6) Months from the date of contract signing.

## F. Deliverables

The list of deliverables includes:

- a) Inception report – overview of how the project will be completed, including timeline, geographic scope, etc. This should include a draft research methodology, based on a

literature review.

- b) Draft sections, based on participatory research.
- c) At least two multi-stakeholder workshops
- d) One validation meeting.
- e) Final report (in English, in hard and soft copy).

**The project will include the following key components:**

**1. Inception Report (Literature review, research methodology, timeline, workshop)**

The consultant will conduct a review of studies/reports which are not publically available (which will be provided to them upon contract signature) regarding the supply and demand assessments of the petroleum sector supply chain opportunities in Kenya. Based on the oil and gas industry review, as well as an assessment of relevant methodologies the consultant will develop a detailed methodology for standardization gap analysis. Once the methodology has been reviewed and cleared by the Project Implementation Team at MoITC, the consultant will organize a multi-stakeholder meeting of relevant stakeholders, to share the methodology, and get suggestions and guidance from stakeholders.

**2. Draft Report**

The consultant will produce draft report sections highlighting the key findings. Each section should be submitted separately (consultants should propose appropriate schedule) to allow for review and feedback. All the items in the scope of work above should have their own section.

**3. Multistakeholder Workshops**

At least two workshops should be conducted in this phase to obtain feedback on draft sections (in addition to the preparatory workshop outlined in the previous section).

**4. Validation meeting**

The consultant will circulate the full draft report (all sections) for comments and questions ahead of a final validation meeting with the multi-stakeholder group; including industry, government, and civil society representatives. The validation meeting should provide an opportunity to share and discuss findings with informed stakeholders, to get their concurrence and validation of findings. The consultant will be responsible for organizing and facilitating the meeting – including but not limited to aspects such as identifying a venue, identifying participants, developing an agenda, leading the meeting, and writing minutes.

**5. Final Report**

Based on feedback from the validation meeting, the consultant will produce a final report (in English, in hard and soft copy).

### **G. Administration**

Activities to be performed under this assignment by the Consultant will be part of the Kenya Petroleum Technical Assistance Project (KEPTAP). The Consultant's contract will be signed by MoITC. Consultants will report to the MoITC Project Implementation Team. No report or document related to this assignment shall be distributed to third parties prior to the approval by MoITC. The deliverables and supporting material from this consultancy shall be the property of the GoK.

### **H. Consultant Qualifications**

- It is expected that the Lead Consultant will have a relevant years of experience in the design and implementation of standardization programs related Oil and Gas industries, value chain analysis, with multi-country experience, and has a history of delivering quality analytical, programmatic and actionable work.
- The team is expected to be made up of a minimum of 6 full time technical staff.
- All other staff will be expected to have relevant standardization experience in the oil and gas sector.
- At least one staff member will be expected to have a deep understanding of the Kenyan economy. Due to the large amount of stakeholder engagement and fieldwork in Kenya, at least one member, if not more, should be resident in Kenya in addition to the international experts.
- The lead consultant should have advanced degree in any of the following fields chemical engineering, mechanical engineering, petroleum engineering. At least one member of the team should had advanced degree in industrial economics.

### **I. Selection Criteria:**

The consultant for this assignment will be selected through Quality and Cost Based Selection (QCBS) criteria. The following criteria will be utilized for the selection of the consultant firm to undertake the assignment:

- i. The consultant must demonstrate relevant years' of experience in standardisation with experience in Oil, Gas standardisation.



- ii. The consultant to provide no more than three (3) examples of experience in the last ten years of relevant assignments with evidence of delivery.
- iii. Demonstrate proven experience in Africa.
- iv. The consultant must provide the names of the consultant team, their qualifications including relevant technical capabilities, and specific previous experience must be detailed as requested in the TOR.
- v. The Consultant shall describe all anticipated difficulties and make recommendations regarding how they will be overcome such difficulties during execution of the scope of work.
- vi. Companies or Consortiums, which include a Kenyan company or a locally registered office employing, training and developing Kenyans will have an advantage.