



## **TERMS OF REFERENCE**

### **EXPRESSION OF INTEREST FOR CONSULTANCY SERVICES FOR NATIONAL INDUSTRIAL SURVEY FOR THE KENYAN NUCLEAR POWER PROGRAMME**

#### **INTERNATIONAL TENDER NO: KNEB/EOI/98/2017/2018**

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The Kenya Nuclear Electricity Board (KNEB) is established under the State Corporations Act, Cap 446 of the Laws of Kenya and is mandated to promote and expedite the development of nuclear electricity in Kenya.

One of the functions of the board is to review, assess, plan, advice on the development of infrastructure necessary for the successful implementation of a nuclear power programme. The Board is guided in its implementation of the nuclear power programme by the International Atomic Energy Agency (IAEA) Milestone Approach Guidelines document which outlines 19 infrastructure issues to be evaluated by a nuclear energy new comer country. Industrial involvement is one of these 19 infrastructure issues to be evaluated as the country gears towards generating affordable, reliable and environmental friendly electricity using nuclear technology.

Kenya recognizes that a viable national industry involvement plays a major role in the successful implementation of the country's Nuclear Power Programme. In order for Kenya to develop strategies, action plans and policies for local participation in support of nuclear power programme a detailed and comprehensive national survey is paramount.

The Board hereby invites expression of interest from eligible firms to undertake a detailed national survey of Kenya industrial sector's capability to support nuclear power programme. More details can be obtained from [www.nuclear.co.ke](http://www.nuclear.co.ke).

EOIs clearly marked "**Tender No: KNEB/EOI/LI/01/2017/2018 - EOI for Consultancy Services for National Industrial Survey for the Kenyan Nuclear Power Programme** " with the instructions "Do not open before **11<sup>th</sup> April 2018 at 12pm**" and addressed to the **Chief Executive Officer, P. O Box 26374 – 00100 NAIROBI** must be delivered by 12pm on or before **11<sup>th</sup> April 2018** in the tender box located at the main reception of Kenya Nuclear Electricity Board, 2<sup>nd</sup> floor, Kawi House, off Red Cross Road, South C.

Late bids shall not be accepted. The EOI shall be opened immediately thereafter in the main boardroom in the presence of applicants who may choose to attend.

**Chief Executive Officer**

**Kenya Nuclear Electricity Board**

## **A: BACKGROUND**

The national electricity demand is projected to increase significantly in the near future as Kenya gears towards a middle income economy. Kenya's development blueprint, The Vision 2030, has identified energy as a key driver for sustainable growth. The energy sector is expected to provide adequate, affordable and reliable supply of energy to meet the development needs of the country.

Kenya's Least Cost Power Development Plan projects a considerable increase in peak power demand by the year 2030 as a result of the rapidly increasing use of electricity for industrial, commercial and household use. This has created the need to enhance and diversify national power generation and supply by identifying new generation and supply sources that will produce energy that is affordable, reliable, clean and sustainable at base load. Nuclear energy provides such an option as it is an optimal energy source for base load operation, which is efficient and most importantly, reliable.

The Government of Kenya has decided to incorporate nuclear power as one of the generation technologies of choice for satisfying future electricity demand. This is backed by the fact nuclear power provides safe and reliable electricity production at a reasonable and competitive price, while providing independence from fossil fuel and associated price fluctuations.

Kenya Nuclear Electricity Board (KNEB) is established under the Kenya Nuclear Electricity Board Order 2012 pursuant to the provisions of the State Corporations Act, Cap 446 of the Laws of Kenya. KNEB's primary function is to promote and expedite the development of nuclear electricity generation in Kenya.

One of the functions of the board is to review, assess, plan, advice on the development of infrastructure necessary for the successful implementation of a nuclear power programme. Industrial involvement is one of the 19 International Atomic Energy Agency (IAEA) infrastructure issues in support of a nuclear power programme which is defined as the sum of the entire industrial capability required to support a safe and reliable nuclear power programme, of which a subset is 'local industrial involvement', provided by local or national organizations.

Kenya recognizes that a successful nuclear power programme, is dependent on both foreign and domestic industrial support for its development, is a pre-requisite for nuclear electricity production. Many goods and services are required to construct a nuclear power plant and support its operation. Industrial organizations are needed that can comply with strict codes and standards and rigorous quality programmes related to these goods and services.

Kenya intends to localize those parts of industrial involvement where national industrial organizations can cost-effectively achieve these high standards. These supporting activities shall be a source of jobs, industrial growth and economic growth for the local community and Kenya.

Kenya shall adopt a policy of intent based on local current industrial capability with respect to developing or enhancing local industrial capabilities. This policy shall transition into firm plans to develop the facilities, programs and skills to realize the optimum level of involvement .For a

decision to be made on the optimum level of participation envisioned, a comprehensive national industrial involvement survey shall be carried out by the board. The optimum level of localisation as well as other findings of the national survey shall be expected to provide very important input into industrial policy, localisation policy and strategy development.

### **C: OBJECTIVES**

The main objectives of this consultancy is to assess the national industrial involvement infrastructure and capability to participate meaningfully in Kenya's Nuclear Power Programme. The specific objectives are as follows:

1. To determine the capability/capacity of local industry to support the Kenyan nuclear power programme as currently constituted;
2. To determine the optimum achievable level of localization for NPP;
3. To select industries with the potential to support Nuclear Power Program (develop potential supply chains);
4. To maximize on experiences of conventional plants and Large Localization projects;
5. To assess level of business interest by the industry and business leaders in NPP;
6. To conduct an evaluation of Local industries with the potential to support NPP;
7. To create awareness in the industry of the opportunities made available by a Kenyan Nuclear Power Programme;
8. To establish a management framework for the planning, control, implementation, verification and coordination of activities related to building industrial capacity and capabilities able to sustain nuclear power operations;
9. To establish national policies for developing or enhancing capabilities of the national industries, permitting a viable and sustained development of the nuclear power programme.

### **D: SCOPE OF SERVICES**

The scope of services geared to achieve the requirements of the main objective while meeting requirements of the other objectives shall include but is not limited to:

1. Industry awareness and outreach programme
2. Facilitate and conduct workshops with high potential local suppliers
3. Facilitate and conduct symposium by reactor technology providers
4. Facilitate and conduct industrial capability survey and assessment

5. Facilitate and conduct technical study of large localization projects in Kenya
6. Facilitate and conduct technical study of conventional power plants in Kenya.
7. Development of Industrial Involvement database for Kenya's Nuclear Power Programme (NPP).
8. Capacity building and benchmarking.
9. Generation of a report on policy and strategy development and implementation
10. Documentation of process and knowledge transfer.

#### **E: METHODOLOGY**

Standard techniques and best practices shall be used including and not limited to use of checklists, questionnaires, case comparisons, literature review, field to field facility audit, benchmarking and consultations in order to achieve the desired objectives.

#### **F: THE STUDY TEAM**

A joint multidisciplinary team of Industrial Involvement Technical Working Group (II TWG) and consultants team who have expertise in, but not limited to; economics, engineering, and information technology experts registered by the relevant accredited professional bodies shall be required to carry out the national survey. Detailed CVs and relevant registration body certificates for the team shall be availed to the Board.

#### **G: EXPECTED OUTPUTS**

The expected outputs of this assignment shall include the following:

1. Inception Report (I.R)
2. Nuclear Industrial Survey Report (NISR).
3. Industrial Investment Planning Report (I.IPR).
4. Nuclear Localization Program Report (NLPR).
5. Policy and Strategy Proposal Reports.

#### **H: TIMING/REPORTING/QUALIFICATION REQUIREMENTS**

The assignment shall take twelve (12) months from the time of signing of contract up to the time of completion which shall include verification of information by KNEB.

The Consultant shall provide qualified staff with relevant nuclear related expertise and experience of not less than 10 years in nuclear industry for the Team Leader and at least 5 years of similar experience for the additional core staff. The consultant must have prior experience in industrial

assessment for a nuclear power programme.

**Consultant Personnel**

<b>Professional Specialization</b>	<b>Minimum Years of Experience in Specialization</b>
Lead Assessor / Specialist	10 years of field experience with 5 years as the Lead Expert
Team members	5 years of relevant experience

The Consultant team shall provide qualified Kenyan staff with relevant industry expertise and experience of not less than 10 years in Kenyan industry and at least 5 years of similar experience for the additional core staff.

The qualified personnel firm must meet all the legal requirements to operate in Kenya, and shall show proof of previous industry capacity assessment for a nuclear power program.

The Consultant shall be required to prepare and submit the following reports to KNEB:

*1. Inception Report (I.R)*

The consultant shall be required to provide (3) copies of inception report (I.R) to the Board not later than week six (6) to KNEB for approval. The inception report shall include detailed program for the scope of work involved in the assessment, a detailed schedule for all work, including field work related to applicable tasks. The inception report shall also include the fulfillment of the conditions listed in this TORs and approaches to be utilized in the development of the assessment.

*2. Detailed Project Implementation Report (PIR)*

The consultant shall facilitate a kick – off meeting to be held not later than 2 weeks after contract signing to providing the PIR to the Industrial Involvement (I.I) Technical Working Group (TWG) and the Board and outline the schedule, time frame and all activities and sub activities planned.

*3. Draft Nuclear Industrial Survey Report (NISR)*

The Consultant shall provide Two (2) copies of the draft NISR to the Board and I.I TWG not later than week twenty (20) after signing of the contract.

*4. Final Nuclear Industry Survey Report*

The consultant shall then be required to provide ten (10) copies of the final NISR not later than

(24) weeks after signing the contract.

*5. Draft Industrial Investment Planning Report (I.IPR)*

The Consultant shall provide two (2) copies of the draft I.IPR to the Board and I.I TWG by Week thirty four (34) after signing of the contract.

*6. Final Industrial Investment Planning Report*

The consultant shall provide ten (10) copies of the final I.IPR thirty - eight (38) weeks after signing of the contract.

*7. Draft Nuclear Localization Program Report (NLPR)*

The Consultant shall provide a localization program report that shall comprise the following: Localization Cost Benefit Analysis, Component Localization Recommendation and Localization Program Implementation. The consultant shall provide the draft report forty two (42) weeks after the signing of the contract.

*8. Final Nuclear Localization Program Report (NLPR)*

The Consultant shall provide a localization program report that shall comprise the following: Localization Cost Benefit Analysis, Component Localization Recommendation and Localization Program Implementation. The consultant shall provide the final report forty-five (45) weeks after the signing of the contract.

*9. Capacity Building and Bench marking Report*

The consultant shall facilitate and organize for capacity building and bench marking for the I.I TWG to three (3) countries with operating nuclear power plants. The consultant shall facilitate for training I.I TWG and reporting not later than twenty-six (26) weeks after signing of the contract.

*10. Verification, and validation Meetings Reports*

The Consultant shall facilitate periodic review workshops for national industrial survey with I.I TWG and identified relevant stakeholders. One (1) review workshops for each draft report shall be conducted. One (1) workshop for each final report with final exit meetings scheduled on a need-be basis and one (1) benchmarking visit to a successfully established industrial infrastructure for an NPP country.

**I: FACILITIES AND COUNTERPART PERSONNEL**

The Client shall provide the Consultant with counterpart and liaison staff from the I.I TWG.

**J: IMPROVEMENT OF OUTPUT REPORTS**

A detailed quality assurance and quality control mechanism shall be developed by the Consultant to ensure any revisions and improvements of the reports produced by him are incorporated and implemented.

**K: ELIGIBILITY OF CONSULTANTS**

To be eligible, the firms/consultants must meet the following minimum criteria:

1. Provide statutory registration documents i.e. Copies of PIN, VAT Registration Certificate, Incorporation Certificate, Tax clearance certificate where applicable.
2. Provide detailed company profile including CVs of lead consultant and other key personnel as prescribed in *Para. H* above. Physical address and Telephone contacts should be provided.
3. Must be familiar with National and International Nuclear Regulations
4. May associate with other Consultant(s) in a joint venture or subcontract, as appropriate.
5. International consultant(s) may seek the participation of local Consultant(s) by entering into a joint venture with, or subcontracting part of the assignment to a national Consultant(s).
6. Key staff proposed shall be permanent employees of the firm or have an extended and stable working relationship with it.