REQUEST FOR EXPRESSIONS OF INTEREST FOR THE PROVISION OF CONSULTING SERVICES FOR CONDUCTING GRID IMPACT STUDIES FOR TWO POTENTIAL SOLAR SITES IN SHIMABALA/KAFUE - KNBEPC/PROC/61651/4/382/2026

Kariba North Bank Extension Power Corporation (KNBEPC) Limited is a wholly owned subsidiary of ZESCO Limited incorporated in 2007. KNBEPC Limited is a separate legal entity engaged in power generation that owns and operates a 360MW hydro power plant located in Siavonga and a 100MWac Solar Power Plant in Kafungalubala, Chisamba.

In the quest to increase KNBEPC's generation portfolio and provide an energy mix onto the national grid, the corporation has embarked on plans of establishing another 100MW Solar PV plant to supplement the existing infrastructure and asset base. The corporation has identified two potential sites for construction of the Solar Plants located in Shimabala region and around Kafue West Switchyard, Kafue District, Lusaka Province of Zambia. Therefore, KNBEPC Limited wishes to conduct Grid Impact studies at the two proposed sites with the potential point of connection being the 330kV Kafue West Switchyard.

PROJECT BACKGROUND

The planned 100MWac (110MWp) solar Photovoltaic Power project is for a large-scale solar generation power plant to be located in Kafue district, Zambia. The estimated average generation capacity over 25 years of its operation is about 200 GWh of energy per annum. The plant is proposed to be developed on one of two identified potential sites; a 110-hectare piece of land which is approximately 10km away from the 330kV Kafue West Switchyard, or a part of the approximately 416.0511 hectares land located about 6km from the same 330kV Kafue West Substation.

The PV facility will comprise the following typical infrastructure:

- Arrays of PV panels and respective string inverter stations
- Appropriate mounting structures;
- Cabling between components (to be lain underground where practical);
- An on-site substation including a control building;
- Permanent laydown areas for operating staff;
- Laydown areas for the construction phase; and
- Internal access roads, drainage system and security fencing.

The Solar Plant will be connected to the ZESCO transmission network and generated power will be sold via a Power Purchase Agreement (PPA).

OBJECTIVE OF THIS ASSIGNMENT

The main tasks of the studies include but not limited to:

- Assess suitability of each of the two proposed project sites to the point(s) on the grid for connecting power generating plant(s);

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- Assess impact of the proposed Solar plant on network stability fault levels; and
- Determine the Power Plant size for the identified location.

SUMMARY OF TORs

The studies will include the following but not limited to:

a) Data collection from all relevant stakeholders such as Energy Regulation Board (ERB), ZESCO Limited, Ministry of Energy or Office for Promotion of Private Power Investment, Zambia Environmental Management Agency and other government departments;

b) Conduct preliminary studies to identify potential impacts to societies and environments arising from this interconnection facility and shall propose mitigation measures for each of the two potential sites;

c) Provide analysis of connection options and mode of connecting to the grid, i.e., whether its direct connection to the substation or cutting into a transmission or distribution line for each of the two potential sites;

d) Provide proposed single line diagrams and layouts of the interconnection and plant(s) for each site;

e) Determine all the requirements for interconnection for each site and ensure that the specifications of the interconnection facilities are in accordance with the requirements of grid operator (ZESCO Limited);

f) Carry out conceptual designs of the facility and interconnection line for each site based on the simulation results complying with ZESCO requirements;

g) Undertake studies in accordance with provisions such as the Grid Code, Distribution guideline, SAPP Planning criteria and Operating guidelines; and

h) Review the network information from ZESCO and model the plant and interconnection to the grid and submit study and design reports to KNBEPC for each of the two sites.

REQUIRED MINIMUM EXPERIENCE OF THE CONSULTANT

The applicant should demonstrate ability to mobilise equipment and deploy skills necessary to undertake tasks set out in these Terms of Reference. The requested minimum technical and human expertise is as shown below:

a) The applicant must be registered and paid up with Engineering Institution of Zambia (EIZ) or its international equivalent;

b) The applicant should have carried out at least two (2) similar assignments in the last five (5) years; and

c) Staff requirements are as indicated in Table 1 below.

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Table 1: Staff Requirements

Key Expert	Minimum Qualifications and competence for the Assignment
Team Leader	• Team Leader with over ten (10) years necessary consultancy experience with sound knowledge in System studies, simulations, Grid code of Zambia and Power systems.; • Must hold a Bachelor's Degree in Electrical or Electronics Engineering; • Must be a registered paid-up member of EIZ; and • Attach CV, Academic and Professional Credentials.
Assistant Team Leader	• An Assistant Consult with eight (8) years relevant experience in System studies, simulations, Grid code of Zambia and Power systems; • Must hold a Bachelor's Degree in Electrical or Electronics Engineering; • Must be a registered paid-up member of EIZ; and • Attach CV, Academic and Professional Credentials
Electrical Engineer	• An Electrical Engineer with five (5) years relevant experience in System studies, simulations, Grid code of Zambia and Power systems; • Must hold a Bachelor's Degree in Electrical or Electronics Engineering; • Must be a registered paid-up member of EIZ; and • Attach CV, Academic and Professional Credentials.

Interested applicants may obtain further information on the Expression of Interest and request for the detailed expression of interest document from the undersigned through the following email addresses pmpampi@knbepc.co.zm and copied to knbe@zesco.co.zm.

KNBEPC Limited now invites interested firms to express interest to be shortlisted for undertaking the Grid Impact Studies. The Expressions of Interest must be deposited in the tender box situated in the Foyer, Plot No. 10819, Mwinilunga Crescent, Off Lake Road, P. O. Box 35874, 10101, Lusaka, Zambia. The contact telephone number is 260 (211) 362661 and Email: knbe@zesco.co.zm, HOWEVER, TELEFAX APPLICATIONS WILL NOT BE ACCEPTED.

The closing date for the receipt of the Expressions of Interest is **Thursday, 22 October 2026 at 10:30 hours**, Zambian time and any applications received after the time and date stipulated above shall not be accepted. The Expressions of Interest received shall be opened in the **Boardroom at Plot No. 10819, Mwinilunga Crescent, Off Lake Road, Lusaka, Zambia**, immediately thereafter in the presence of applicants and or their representatives who shall choose to attend.

The Expressions of Interest must be deposited in the tender box situated in the Foyer at the KNBEPC Offices, Woodlands, Lusaka clearly labeled **"REQUEST FOR EXPRESSIONS OF INTEREST FOR THE PROVISION OF CONSULTING SERVICES FOR CONDUCTING GRID IMPACT STUDIES FOR TWO POTENTIAL SOLAR SITES IN SHIMABALA/KAFUE - KNBEPC/PROC/61651/4/382/2026".**

Successful shortlisted firms will be invited to submit their proposals through the Electronic Government Procurement (e-GP) System. Shortlisted firms must therefore be registered on the e-GP System to participate in the subsequent stage of the procurement process.

BOYD C. KANCHELA
CHIEF EXECUTIVE OFFICER

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