

REQUEST FOR EXPRESSION OF INTEREST

LIFETIME ASSESSMENT OF 160MVA TRANSFORMERS

CONCURSO Nº: HCB/DSA/LIFETIME ASSESSMENT AND TESTING OF OIL-IMMERSED POWER TRANSFORMERS /004/2022

Hidroeléctrica de Cahora Bassa, SA («HCB») intends to hire a company to evaluate the operational status and perform lifetime assessment of 160MVA power transformers of the power generation plant. HCB requests for expressions of interest (EOI) from interested and specialised companies with the aim of pre-selecting competing companies.

The scope of this project consists of evaluation, condition check, as well as, estimating the remaining lifetime of the 17 Single-Phase Oil Immersed Power Transformers of 160 MVA 16/220 kV, which two (2) are spare transformers and fifteen (15) are connected to 5 generator units of 480MVA as three-phase power transformer banks in Delta-Wye (Δ/Y) configuration with the neutral directly grounded. **The following services are expected, but not limited to:**

- Collect oil samples and perform the following analyzes: DGA, color and appearance, breakdown voltage, water content, interfacial tension, furanic analysis. This activity must be done with transformers in service;
- Carry out the measurements of Insulation Resistance and PI, Ratio Measurement, winding resistance test, Tan- δ of windings, HV and LV bushings as well as capacitance testing, SFRA (Sweep Frequency Response Analysis), FDS (Frequency Domain Spectroscopy), No load and short-circuit losses, as well as their respective impedances for the three tap changer positions, sound spectrum measurement, operational checks on auxiliary circuits, Buchholz relay, Oil temperature indicator (OTI), winding temperature indicator (WTI), cooling system and general condition;
- Carry out online (with the transformer in service) PD Test (acoustic and UHF);
- Carry out infrared thermography (with the transformer in service);
- Provide theoretical and on-job training on power transformer operation and maintenance (predictive, preventive and corrective maintenance), electrical and oil tests procedures and result analysis to HCB personnel;
- Provide detailed technical reports, including the technical condition and remaining life assessment of each transformer and the short to long-term actions to be taken, in order to maximize the lifetime, reliability and availability of the power transformers.

For this aim, companies interested in participating must meet and prove the following eligibility requirements:

1. Hold a commercial registration certificate that entitles them to carry out the activity;
2. Have proven experience in performing similar services by submitting 3 reference letters or reports or duly signed contracts in the last ten (10) years in tests and evaluation of the operational status and lifetime assessment of power transformers;
3. Proven experience in *online* testing of power transformers;
4. Proven experience in rehabilitation of power transformers, preventive and corrective maintenance of power transformers rated above 80 MVA;
5. Present the company profile, highlighting its experience, area of expertise, human resource's structure, including its qualifications and competences of the technical team;
6. Finance and Labour Security Certificate;
7. Submit the Declaration that no insolvency and recovery proceedings have been filed against the company;
8. Declaration of Non Existence of Conflict of interest.

express their interest by submitting all documentation and evidence proving their eligibility by means of electronic mail:

tender-assessment-testing-oil-power-transformer@hcb.co.mz, until 17h00 of January 10th 2023.

In the referred Expression of Interest, "HCB/DSA/LIFETIME ASSESSMENT AND TESTING OF OIL-IMMERSED POWER TRANSFORMERS /004/2022 - Expression of Interest" must be entered in the "Subject" field of the e-mail.