

**KGN-HYD - 018-2018.: INTERNATIONAL TENDER FOR REHABILITATION OF GENERATOR MV SWITCHGEAR, PROTECTION SYSTEMS AND LV SWITCHBOARDS OF GITARU HYDRO POWER STATION - KENYA Clarification 2**

Item No.	TENDER CLAUSE NO.	TENDER ARTICLE	Question/ additional information sought by tenderers.	Clarification
<b>EMPLOYER REQUIREMENTS</b>				
2	1.13.2.3 (a)	<p>One (1) Three Phase Motorised Variable Transformers (Variac) for testing purposes with the following features: (i) Transformer shall be cast resin dry type with a fixed input voltage and variable output voltage (ii) Rated continuous input voltage: 415V AC +5% (iii) Rated continuous current @40oC: 150A AC (iv) Surge current rating:1500A for 1sec ..... (x)</p>	<p>Three Phase Motorised Variable Transformers (Variac) are not available as cast resin transformer. It is available only as Toroidal Transformer Coils on steel core. Please confirm. Requirement for Surge current rating:1500 A is not clear. Please explain what you mean by surge current and is the rating:1500 A necessary. We do not include 1000% rating on transformer. Rated 500% (875A) for 12 seconds is available. Please confirm if lower rating of surge current is acceptable. Otherwise the size of transformer need to be doubled followed by price increase. Output Terminal Block is on transformer stack. Please confirm. Regarding the requirement • Digital Voltmeter for output voltage with selector switch • Ammeter for output current with selector switch System will include continuous readout of Volts and Amps for each phase. Please confirm. Regarding requirement up and down push button for output voltage: The voltage is set by keying in the requested voltage on the controller and voltage will be regulated at the set voltage. Is that enough or you want an additional manual raise lower control. Please confirm. Please provide your planned time sequence and frequency of loading and overloading of transformer for your application.</p>	<p>Transformer can be Toroidal Transformer Coils on steel core.</p> <p>All the other requirements as per tender document.</p> <p>(See Ashley- Edison UK, MAE-32503-HB-DM-CB <a href="http://ashleyedisonasia.com/uploads/files/MAE-HB-DM-CB-480ThreePhase.pdf">http://ashleyedisonasia.com/uploads/files/MAE-HB-DM-CB-480ThreePhase.pdf</a> )</p>

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3	1.13.2.3 (b)	One (1) 433/3300V Three Phase Voltage Booster Transformers for testing purposes with the following features: ..... ....	It's not clear what type of testing is the purpose of transformer and what will be the load that transformer will carry during the operation especially regarding surge current. How long, and how many times you are expecting that transformer will be loaded with surge current of 1500 A (i.e. once a day, or every 5 minutes, or every hour). Please clarify.	As per tender requirements.  Transformer may be used for full load short circuit tests of transformers rated 1MVA and below, differential stability tests for transformers up to 100MVA etc.
4	2.6	Switchboards, panels and cabinets requirements	Please we need Gitaru Plan layout showing the Equipment locations and cable routing (lengths) drawings	Not available  See clause 2.6 on estimated cable lengths.  Estimated distance from Main station auxiliaries' switchboard (control room) to dewatering pumps maintenance panel (turbine Level) is 270m
5	2.6	Cables and conductors	Please provide, if available General cable list, at least for main equipment	Not available
6	2.6	Cables and conductors	Please we need detailed Cable list for Gitaru Station including MV, LV, Protection, SCADA.....etc.	Not available
7	2.6	Cables and conductors	Shall we use the existing cables, or we have to change with new cables...Please advise	See clause 2.6.3
8	6.2	Particular technical specification: generator MV switch gear	Will there be high speed transfer between MV busbars?	No

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9	6.2	Particular technical specification: generator MV switch gear	Is there any MV distribution, do we need to auxiliary transformer for this?	No
10	6.2.5.1	Station transformer HV terminals shall be interfaced to the MV switchgear feeder panel using HV cables. The cables shall meet the following requirements..... . (g) Mounting steel structures and supports shall be provided for installing the cable and connecting to station transformers (h) Cables shall be terminated to the existing station transformers HV terminals from the MV switchgear panel. All installation devices shall be supplied, and terminations carried out by the contractor	Please clarify which kind of cable installation is needed or required (concrete cableways, trays over ground or something different)	See clause 6.2.5.1(i)
11	7	Particular technical specification: protection systems	The existing CT, VT, NER will be used or do we need to replace them? Is it in the scope of tenderer or contractor?	No  Please see the specification drawings and preliminary bill of materials for clarity on scope
12	7	Particular technical specification: protection systems	Where will the communication cabinet be situated?	In the control room
13	7	Particular technical specification: protection systems	Please list all the CBs which need auto or manual synchronization function in the whole scope	EDG ACB and 132KV CB's  Please see the specification drawings and preliminary bill of materials for clarity on scope

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14	7.2	Existing protection equipment	Is block differential existing or not	See clause 7.2 for existing protection and drawing OG-3-506 provided during site visit
15	7.3.3.10	Remote HV breaker control and Synchronizing scheme	Please confirm synchronizing system will be limited to unit 2 and 3	132kv CB's unit 2 and 3 and EDG ACB.  Please see the specification drawings and preliminary bill of materials for clarity on scope
16	7.3.3.10	Remote HV breaker control and Synchronizing scheme	Please clarify how you manage synchronization on 132 kV breaker in the current situation; is there already an automatic synchro relay?	There is a synch relay on 132KV CB to be shifted to GCB in the project  Please see the specification drawings
17	7.3.3.10	Remote HV breaker control and Synchronizing scheme	In the new configuration, Unit 2 & 3 will have 2 possible parallel point, on GCB and on 132 kV breaker. Please clarify how you will want to manage these 2 points, and if the new Synchrotact shall be able to manage 2 parallel points, or if it shall be designed for 1 parallel point	Yes.  They will be independent of each other
18	7.3.3.10	Remote HV breaker control and Synchronizing scheme	Please confirm that the new automatic synchro relay shall be installed inside GSU protection panel, and if yes if a dedicated mimic with selectors/pushbuttons	Yes, to Synch relay.  Scope of supply for GSU-T protection as detailed in clause 7.3.3
19	7.3.3.10	Remote HV breaker control and Synchronizing scheme	In the step-up transformer protection requirement, two functions are mentioned as following: 1) 25-HV, HV side synchronization check , 2) 21L (line distance protection. Please simply describe the main principle and function. 3) Please clarify How the 132kV CB auto synchronization is achieved and which device	All requirements to be met as detailed in the tender document.  All the functions listed in clause 7.3.3.3 are mandatory  Please see the specification

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			include this function so far. Also confirm whether this function is under the scope if yes, please confirm the distance from 132kV PT to control room.	drawings and preliminary bill of materials for clarity on scope
20	7.3.6.7	EDG remote control scheme	Please confirm EDG remote control scheme can be installed inside EDG/Alternative transformer protection panel	yes
21	7.3.6.7	EDG remote control scheme	Please confirm EDG protection relay is intended to be a specific control and protection unit for EDG	Should perform all the functions detailed in clause 7.3.6

**ACKNOWLEDGEMENT OF CLARIFICATION NO. 2**

We, the undersigned hereby certify that the addendum is an integral part of the document and the alterations set out in this clarification have been incorporated in the tender proposal.

Signed.....

Tenderer.....

Date.....