



KENYA ELECTRICITY GENERATING COMPANY PLC.

KGN-GDD-062-2019.

TENDER FOR DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF GEOTHERMAL WELLHEADS CONTROL CENTRE .

7th May, 2019.

CLARIFICATION NO 1.

In Accordance with the Tender for “Design, Supply, Installation, Testing And Commissioning Of Geothermal Wellheads Control Centre.” KenGen hereby issues Clarification No.1

- Clarifications arising from the Mandatory Site Visit Meeting

A. INSTRUMENTATION TECHNICAL SPECIFICATIONS

Table 1: Instrumentation Technical Specifications

No	Description	General requirements	Qty
1	Valve complete with compatible actuator (Turbine drain valve)	Pneumatic Actuator Power Supply 24Vdc NB:1 10Vdc available but contractor will have to supply and install required cables	52
2	Valve complete with compatible actuator (Ejector On/Off Valve)	Pneumatic Actuator Power Supply 24Vdc NB:1 10Vdc available but contractor will have to supply and install required cables	2
3	pH monitoring system comprising pH transmitter with dual pH/ORP sensors	Process fluid is geothermal steam condensate	15

B. EXISTING SIGNALS

1. Approximate signals for Eburru, Pilot, and Packages I, II, and III

- a) Eburru plant consists of approximately 449 existing signals.
- b) Pilot plant consists of approximately 569 existing signals.
- c) Each typical Package I plant consists of approximately 568 existing signals
- d) Each typical Package II plant consists of approximately 700 signals
- e) Each typical Package III plant consists of approximately 761 signals.

The above signals are inclusive of spare signals with each plant having more than 150 existing spare signals.

The contractor is responsible for verifying the actual number of signals existing per plant to enable them carry out the system integration.

2. Substations signal Integration

The contractor shall evaluate the entire substation HMIs as displayed in the respective LCCs for the substations and integrate those into the Wellheads Remote Control Center (WRCC). Currently each LCC has HMI for the substation status as was shown during the site visit.

C. EBURRU TELECOMMUNICATION WORKS

Telecommunications Requirements (Interconnection between LOCAL Control Centre's and Wellhead Central Control):

The three WLCCs will be interconnected back to the WRCC as below:

(i) OW37 LOCAL CONTROL CENTRE

KenGen will avail point to point fiber pairs to connect OW37 WLCC to the new WRCC.

(ii) OW914 LOCAL CONTROL CENTRE

KenGen will avail point to point fiber pairs to connect OW914 WLCC to the new WRCC.

(iii) EBURRU LOCAL CONTROL CENTRE

The contractor will be responsible for supply, installation, configuration and commissioning of a link between Eburru WLCC and the new WRCC. The minimum technical specifications of the installed link shall include, but will not be limited to, the below:

- Link termination on both ends will be on an Ethernet interface.
- Maximum latency of 50 milliseconds on the point to point with no traffic loaded on it.
- Minimum throughput capacity after link configuration shall be not less than 10Megabits.

D. OLKARIA WELLHEADS GPS COORDINATES

	Wellhead Name/Location	NORTHINGS (m)	EASTING (m)
1.	OW-37	9901746.5	198973.2
2.	OW-914	9899836.9	205290.8
3.	OW-43	9903476.1	200760.7
4.	OW-39	9901775.1	198166.3
5.	OW-919	9901473.2	204820.5
6.	OW-915	9899923.7	204402.7
7.	OW-905	9901194.2	202510.2

ACKNOWLEDGEMENT OF CLARIFICATION NO 1.

We, the undersigned hereby certify that the Clarification is an integral part of the document and has been incorporated in the tender proposal.

Signed.....

Tenderer.....

Date.....