



KENYA ELECTRICITY GENERATING COMPANY LIMITED

TENDER NO: KGN-KIP-05-2018

DATE: 11/5/2018

**TENDER FOR EXHAUST GAS BOILER PANEL REHABILITATION
FOR KIPEVU 1 DIESEL PLANT**

CLARIFICATION No .2

In accordance with the KGN-KIP-05-2018 TENDER FOR EXHAUST GAS BOILER PANEL REHABILITATION FOR KIPEVU 1 DIESEL PLANT, KenGen hereby issues Clarification No.2

RESPONSE TO REQUEST FOR CLARIFICATION

1. SIL 3 will need to apply to the complete system including our supply as well all transmitters, actuators and valves connected to the ICSS. The present field equipment and its cables cannot be used for a SIL3 plant. Therefore it will be not be possible to deliver a SIL 3 ICSS that can be connected to the present cables. Please clarify whether KenGen will install all new field equipment and cables needed for SIL3 OR if KenGen would prefer to downgrade to a lower SIL class.

Response:

Having considered the concerns raised in Question 1 above and Question 4 below and in accordance to IEC 61508 standards, the Safety Integrity Level (SIL) should be at least SIL2. The tender limits the scope to the control panel only as for the field instruments will be addressed separately. No HAZOP/CHAZOP study is required before the project.

2. The present tank level controls are based on conductive rods which cannot be connected directly to the ICSS. There are two options, either to keep the old measuring principle with separate conductive rod controllers or to install new dP transmitters with 4 – 20 mAmp output (to be quoted separately) which can be connected directly to the PLC. Please confirm what KenGen would prefer.

Response:

KenGen prefers radar level measurement with 4-20mA output. Consider this in your bid and quote inclusive of the level transmitters.

3. Would it be okay with KenGen if we supplied a control system, like for like with what is existing but utilize latest components that are not phase out? This would be the most economical solution and would give KenGen value for the investment. There would be no additional cable replacements, the

lead time would be less as no additional Engineering and design would be involved, existing transducers/ rod controllers would be utilized and the cost would be much lower.

Response:

The tender specifications have clearly defined the type of solution required, kindly abide as per tender specs.

4. Refer Clause no. 2.4.4 (Page 8/18): Kindly clarify the requirement for IEC61508. Do we have to conduct HAZOP/ CHAZOP study, prepare SIL level classification and verification of SIL level of complete loop? We would appreciate if the requirement and expectation is spelt out clearly.

Response:

Refer to response in Question 1 above.

5. We kindly request for Extension to submit the bid on JUNE 23, 2018. This is because the tender calls for a highly specialized safety integral system. This adequate time will enable us develop a best system to meet the requirement.

Response:

Tender submission to be done on Thursday 21st June 2018.

6. Kindly confirm that the tender is open to international bidders as stipulated in various sections of the body of the tender?

Response:

Tender open to international bidders.

7. Appendix 1A as indicated on page 57 is unavailable, kindly advice.

Response:

Drawings already uploaded in KenGen Intranet as per request.

8. Is there any requirement for Cyber Security compliance for the offered control system?

Response:

System shall be supplied with necessary Hardware firewall for protecting the system from cyber-attack.

9. Please clarify the requirement of training at contractor's premises in regard to location of training.

Response:

OEM's premises to be the training location.

10. Please clarify on FAT location.

Response:

OEM's premises to be the Factory Acceptance Test (FAT) location.

11. The I/O Summary of the ICSS System (DCS I/O count & Safety System I/O count)

Response:

The existing I/O count stands to change markedly since all discrete controllers are expected to be done away with and be integrated in the PLC system. Therefore, the actual I/O count cannot be authoritatively be given by KenGen since the bidders are supposed to come up with a conclusive count by use of existing drawings and site visit information.

12. The level of redundancy required for the System (Controllers, Power Supplies, I/O Modules, Communication Network)

Response:

The controller (CPU) and the power supplies only shall be redundant.

13. The SIL Rate required for the Safety System (SIL2 or SIL3)

Response:

Having considered the concerns raised in Question 1 above and Question 4 and in accordance to IEC 61508 standards, the Safety Integrity Level (SIL) should be at least SIL2. The tender limits the scope to the control panel only as for the field instruments will be addressed separately. No HAZOP/CHAZOP study is required before the project.

14. Barriers are required or not, And if required which type shall be proposed (Zenner or Intrinsically Type)

Response:

Intrinsically safe type

15. The HMI required (PC Based Operator Workstation or HMI Panel Touch Screen)

Response:

HMI Panel Touch Screen

16. The IP Rate of the required integrated System/Marshalling Panels (IPSS or IP65)

Response:

At least IP 65

17. Communication interface with 3rd Parties (Ethernet Communication or Serial Communication)

Response:

Ethernet

18. Due to the clarifications needed and the amount of time given for this tender we are kindly requesting for a two (2) weeks extension for the submission of the same.

Response:

Tender submission to be done on Thursday 21st June 2018 at 10.00 a.m.

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 the Addendum have been incorporated in the tender proposal.

Signed.....

Tenderer.....