

**TENDER NO. KGN-HYD-024-2017**

**DATE: 16/10/2017**

**KENYA ELECTRICITY GENERATING COMPANY**  
**TENDER FOR DESIGN, MANUFACTURE, SUPPLY,**

**INSTALLATION, TEST AND COMMISSIONING OF DELUGE FIRE PROTECTION SYSTEMS FOR GENERATOR TRANSFORMERS AND STATION**  
**TRANSFORMERS IN 7 FORKS POWER STATIONS**

**CLARIFICATION No .1**

In accordance with the Tender for Design, Manufacture, Installation, Test and Commissioning of Deluge Fire Protection Systems for Generator Transformers and Station Transformers in 7 Forks Power Stations, KenGen hereby issues Clarification No.1

**RESPONSE TO REQUEST FOR CLARIFICATION**

<b>Clause/page</b>	<b>Requirement</b>	<b>Clarification/Comment/Deviation</b>	<b>KenGen Comment</b>
Clause 1.8.6 on page 60, and Bill of Quantities	Fire water tank size	According to the "Bill of Quantity" attached to the specification 40,000 litre tank is designed for 2 Power Stations (Masinga and Kindaruma) but according to NFPA 15 calculations this tank capacity will be not enough.	For each station, size the deluge water tank according to the NFPA 15 requirement for deluge suppression action only; existing fire hydrant systems in the stations shall cater for the NFPA 15 additional hydrant supply requirement
		The existing tank sizes are unknown for other locations (Kamburu, Gitaru, and Kiambere) which are intended to be used for this project. This has to be verified if sizes will be able to store water according to calculated water demand.	
		When the constructed/supply fire water tank is less than the required in terms of capacity, the protection time will be less than the standard required by NFPA.	
		According to the drawing "Transformer Deluge Fire Pro Sys Appendix 7 MASONRY TANK" the designed tank has a capacity of only 10,390 litres approximately. According to calculation this tank capacity will be not enough.	

		<p>Please advise what option should be followed for fire water tank size calculation.</p> <p>Option 1: Transformer --&gt; Duration: 60 minutes acc. NFPA 15 Hydrant --&gt; Duration: 60 minutes (250 gpm) acc. NFPA 15</p> <p>Option 2: Transformer --&gt; Duration: 60 minutes acc. NFPA 15 Hydrant --&gt; Duration: 120 minutes (500 gpm) acc. NFPA 850</p>	
Clause 1.8.9 on page 61	Fire pump size	Should the fire pump size for each station be calculated according to the biggest transformer size only, or should the additional fire hydrant capacity requirement of NFPA 850 and NFPA 15 be considered also in sizing the fire pump?	Size the fire pump according to the biggest transformer size only; existing fire hydrant systems have their pumps.
Clause 1.5 on page 58	Supply line (piping between pump house and deluge valve station)	<p>To clarify on type of piping - should it be above ground piping (steel piping) or underground piping (HDPE)?</p> <p>If the supply line should be above ground, is it also allowed to use black steel pipes with fire red finished paint?</p>	All piping shall be underground, as per tender.
Clause 1.8.7 on page 60	Deluge valve storage	<p>Where will be the deluge valves located?</p> <p>Do we have to provide cabinet or sun shield or container for the deluge valves?</p>	<p>The deluge valves shall be near the transformers, but exact location shall depend on the Bidders' designs.</p> <p>No cabinet or sun shield is needed.</p>

Clause 1.8.7 on page 60, and Table 2 on pages 55-56	Deluge valve size	Deluge Valve size will be according to the flow rate calculation. Reference for the flow rate calculation will be the dimensions which are mentioned on the specification (Page 55 & 56). Please confirm the dimensions.	As per tender.
	Country of origin restriction	Is there any restriction for the country of origin for the equipment? For example is it allowed to use equipment from China?	No.
Clause 1.5 on page 58	Pipes and fittings	Please confirm that DIN standard piping is acceptable. According to technical specification DIN standard is also allowed.	Okay
Clause 1.8.7 on page 60	Valve connection	Please confirm that PN16 flanged and grooved valve connection is acceptable.	Okay
Clause 1.8.8 on page 61	Hose cabinet next to deluge valve station	Please confirm the quantity of fire hose cabinet. Is 1 set of fire hose cabinet needed per project.	1 hose per station
		What should be the fire hose coupling standard? British standard BS336?	As per tender
		Please confirm the size of the fire hose. DN40 x 40m	
Clause 1.8.8 on page 61	Fire hydrant landing valve	Do we have to provide a fire hydrant? Please see the attached sample photo. Do you need a hydrant like this one? If not please send us a reference drawing or photo.	As per tender
		What should be the size of the hydrant landing valve? According NFPA DN65 (2 1/2") is required.	
		If DN65 (2 1/2") is needed the fire hose in the hose cabinet should be also DN65.	
Clause 1.8.3 on page 59	Control panel	According to specification control panel manufacturing standard should be EN54 & LPCB. Please advise if also only EN54 standard is acceptable for the control panel.	As per tender

All other terms and conditions remain unchanged.

**ACKNOWLEDGEMENT OF CLARIFICATION NO. 1**

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.....