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Our ref: KP1/9A.3/OT/21/18-18

11th July 2019

Your ref:

TO:

ALL PROSPECTIVE BIDDERS

RE: ADDENDUM NO.1 TO THE TENDER NO. KP1/9A.3/OT/21/18-19 FOR SUPPLY OF BATTERY CHARGER & BATTERIES

Please refer to the above Tender.

Following an enquiry from a prospective bidder thereat, and, at our own initiative, we make the following clarifications and amendments to the Principal Tender Document (*hereinafter abbreviated as the PTD*) for supply of Battery Chargers & Batteries

1. RELATIONSHIP WITH THE PRINCIPAL TENDER DOCUMENT

Save where expressly amended by the terms of this Addendum, the PTD shall continue to be in full force and effect. The provisions of this addendum shall be deemed to have been incorporated in and shall be read and constructed as part of the PTD.

2. CLARIFICATIONS

Question 1. Technical specification is showing several IEC standards, IEC 60622, IEC 62259 & IEC 60993.

Sealed nickel-cadmium batteries is IEC 62259 (described in the title and foreword on page 4)

Vented and prismatic nickel-cadmium batteries is IEC 60623 (described in the scope on page 5 but referenced on page 6 as IEC 60622 and IEC 62259)

KPH is IEC 60623, which is only mentioned on page 9 (4.2.2.7)

Our cells are typed according to IEC 60623 and/or IEC 62259.

The technical specification is mention KPH 180P and 180 Ah, but your request is for 20Ah, 50Ah and 165Ah.

Could you please also clarify those?

Answer.1 With regards to the following excerpt:

- Vented nickel – cadmium prismatic rechargeable cells according to IEC 60623 or 62259 shall be accepted.
- The tender specified the following batteries: - 20Ah, 50Ah and 165Ahr. The stated KPH 180P and 180Ah was used as an example therefore the bidder should insert the appropriate battery size and bidder offer when filling in the GTP in the respective column.

Question 2.

Is it a 3 phase charger, could you please inform me about its connection philosophy? Is it 3 wire or 4 wire?

Answer.2.

The 3 phase charger shall be connected using a 3 phase 4 wire method.

Question 3.

What is the meaning of C/W? Is it complete with batteries? If so what is the capacity 165Ahr?

Answer 3.

C/W stands for complete with batteries meaning it is the charger complete with associated batteries. 165Ahr is the associated capacity of cells charged by respective battery charger, typically rated 110V DC 50A.

Question 4.

As they didn't specify the type of charger whether it is thyristor based or not, because of the above clause we assume it is not thyristor based, it must be IGBT type which is not suitable for MV substations. Could you please clarify this?

Answer 4.

The charger shall be thyristor based and DC output voltage shall conform to clause 4.3.1.7.

Question 5.

It seems they are looking for a battery management system included in charger. Because if we understand the above clauses correctly, we should monitor the temperature and internal resistance of each cell separately to check which one of them temperature exceeds or which one fully charged. Could you please clarify this?

Answer 5.

The charger shall incorporate a battery management system to cut off boost charging in case the temperature exceeds the cells maximum rating as per clause 4.3.1.10.

Question 6.

I have checked the attached specification; I'm confused the BOQ.

did you check the details? The BOQ table in the mail content, the specification is different from the attachment.

Charger Type		A	B	C	D	E	F	G	H
Charger for batteries (Ahr)		20	50	100	165	265	315	1200	1600
DC output voltage(V)	Nominal	30	30	48	48	110	110	110	220
	Float range	34-36	34-36	52-56	52-56	120-129	120-129	120-129	240-258
	Boost range	≤40	≤40	≤64	≤64	≤147	≤147	≤147	≤294

Charger Type	A	B	C	D	E	F	G	H
Rated DC output current(A)	5	15	25	50	70	80	400	300
Trickle current range(A)	0.04-0.16	0.1-0.4	0.2-0.8	0.5-2.0	0.3-1.3	0.6-2.5	3.2-13	2.4-10
Boost Current range(A)	≤5	≤15	≤25	≤50	≤70	≤80	≤400	≤300
Mains type (no of Phases)	1	1	1	3	3	3	3	3
Mains A.C voltage(V)	240	240	240	415	415	415	415	415
Frequency	50	50	50	50	50	50	50	50

Answer 6.

- The above table is on technical specifications that covers design parameters as per clause 4.3.2.1.
- Typically, chargers with DC output of 30V DC are of single phase design while chargers with DC output of 110V DC are of three phase 3 phase design.

Question 7.

For example, from the above the tables, the charger for 20Ah battery, it's requiring 30VDC 10A, whereas your mail table is requiring 30VDC 10A, Which one we should refer to?

Description	Quantity	Country of origin	Unit
Battery Charger 30VDC 10A	38		
Nickel Cadmium Batteries 25 cells, 20AH	38		

Give clarification.

Answer 7.

The battery charger shall have an output of 30V DC rated at 10A (30V DC 10A). The charger has the capacity to charger the connected battery set comprising of 25 cells, each with a capacity of 20 Ahr.

Question 8.

We have gone through the trailing mail along with attachments and noted the following requirement as per schedule IV & section V,

- o Ni-Cd battery
- o 25 cells for 20 AH
- o 92 cells for 50 AH
- o 92 cells for 165 AH

Kindly clarify below details to enable us proceed further.

1) Discharge type of battery (L or M or H or HVM or HVL) / Back up time?

2) As per specs requirement calls for sealed Ni-Cd batteries, please note that there is no completely sealed Ni-Cd batteries available for industrial applications, we can offer our semi-sealed valve regulated ventpro Ni-Cd batteries which conforms to **IEC 62259** standard.

3) Kindly confirm the final requirement is Vented Ni-Cd batteries (**IEC 60623** standard) (or) Ventpro Ni-Cd batteries (**IEC 62259** standard) to enable us to proceed further.

4) As per specs requirement calls for 10 KPH 180 P vented Ni-Cd batteries conforms to **IEC 60623** standard: - Please confirm whether this requirement is in scope of supply or not.

5) We couldn't comply clause number 4.4.1 for racks, can we offer our standard alkali resistant epoxy powder coated open type MS racks?

Answer 8.

- Respective battery sets comprise of;
 - 25 cells for 20 AH - 25 cell each with a capacity of 20Ahr for 30V DC set
 - 92 cells for 50 AH – 92 cells each with a capacity of 50Ahr for 110V DC set
 - 92 cells for 165 AH - 92 cells each with a capacity of 165Ahr for 110V DC set
- Discharge rate shall be as per IEC 60623 or 62259. Back up time required is 8 hours.
- Standard alkali resistant epoxy powder coated open racks are accepted.

Question 9.

Kindly clarify the following KP1/9A.3/OT/21/18-19. Tender for Supply of Battery Chargers & Batteries and When the document says ‘92cells of 165ah’, and the quantity is 3. How many cells are we actually talking about?

Answer 9

The battery set shall comprise of 92 cells with each cell rated 165Ahr. 3 is the total number of battery sets required.

Question 10

When the tender says for example; 25cells of 20ah and the Quantity is 38; How many cells are we talking about?

Answer 10.

The battery set shall comprise of 25 cells with each cell rated 20Ahr. 38 is the total number of battery sets required.

3. SUPPLY OF SPARES

Also create a provision for the following critical items below:

*KPLC Code	Spares for	Quantity - power supply cards	Quantity - firing cards	Quantity - control cards	Quantity - thyristors
197085	Battery Charger 30VDC 10A	10	10	10	5

197092	Battery Charger 110VDC 25A	2	2	2	2
197089	Battery Charger 110VDC 50A C/W Batteries	4	4	4	2
800236	Battery Charger 110VDC 50A	2	2	2	2

Provide a price schedule.

4 TRAINING

Conduct a 5 days training at factory for 4 number of staff on installation, operation and maintenance.

Provide a price schedule.

5. TENDER CLOSING DATE

The tender closing date still remains the same i.e. 24th July 2019 at 10:00 a.m. All other terms and conditions remain as per the Principal Tender Document (PTD)

Yours faithfully,

For: **THE KENYA POWER & LIGHTING CO. LTD.**

For: **JANE NDINYA**
Ag. SUPPLY CHAIN MANAGER (PROCUREMENT)