

Central Office - P.O. Box 30099 - 00100 Telephone - 254 - 02 - 3201000 Stima Plaza, Kolobot Road Nairobi, Kenya www.kenyapower.co.ke

Our Ref: KP1/6A.1/PT/6/16/A52 12th October, 2016

Dear Sir/ Madam:

AMENDMENT No. 1 OF BIDDING DOCUMENT FOR ICB NO: KPI/6A.1/PT/6/16/A52 DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF SCADA EQUIPMENT AND ASSOCIATED TELECOMMUNICATIONS SYSTEM TO INTEGRATE SPECIFIED DISTRIBUTION SUBSTATIONS TO EXISTING SCADA SYSTEM ISSUED ON 11th August, 2016.

#### 1. RELATIONSHIP WITH THE PRINCIPAL BID DOCUMENT.

Save where expressly amended by the terms of this Addendum, the Principal Bid Document 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 as part of the Principal Bid Document.

## A) CHANGES HAVE BEEN MADE ON THE VARIOUS ITBS OF SECTION II-BIDDING DATA SHEET (BDS) AS LISTED BELOW;

1. The scope of the Bid on ITB 1.1

# The name of the ICB is: SCADA UPGRADE FOR DISTRIBUTION SUBSTATIONS The identification number of the ICB is KP1/6A.1/PT/6/16/A52 The number and identification of lots (contracts) comprising this ICB is:

KP1/6A.1/PT/6/16/A52 Lot 1- Design, Supply, Installation and Commissioning of SCADA Equipment and associated Telecommunications system to integrate Distribution Substations in Nairobi and Mt. Kenya Regions to existing SCADA system.

KP1/6A.1/PT/6/16/A52 **Lot 2- -** Design, Supply, Installation and Commissioning of SCADA Equipment and associated Telecommunications system to integrate Distribution Substations in Coast Region to existing SCADA system.

KP1/6A.1/PT/6/16/A52 Lot 3- - Design, Supply, Installation and Commissioning of SCADA Equipment and associated Telecommunications system to integrate Distribution Substations in West Kenya Region to existing SCADA system.

The bidder may bid for one or more lots. Bids shall be evaluated on lot by lot basis.

Details of the SCADA Equipment and associated Telecommunications Equipment being procured are summarized in the tables below:

ITB 1.1		No.of SCADA Equipment	No.of Telcom Equipment	Indication Signals	Alarms, SPI	Commands Output	Measurands, Anolog Ouput
			Lot 1				
	1.Mt .kenya	11	10	221	58	129	274
	2. Nairobi	7	13	177	573	108	270
	FibreLength	190 km					
			Lot 2				
	Coast	15	11	137	328	103	131
	FibreLength	80 km					
			Lot 3				
	West Kenya	29	28	647	1840	455	758
	FibreLength	150 km				,	,
	Sub Total All Lots	70	62	1182	3323	795	1433
	25%of subTotal for Future signals			296	830	198	358
	Total	70	62	1478	4153	993	1791
	Total Fibre	420 km				<del></del>	

## 2. Amendment on ITB 23.1 And 26.1:Submission And Opening Of Bids

The deadline for the submission and opening of bids has been extended from 5<sup>th</sup> October, 2016 to: 16<sup>th</sup> November, 2016.

ITB 23.1	For bid submission purposes, the Purchaser's address is:
	Attention:
	The General Manager, Corporate Affairs & Company Secretary
	The Kenya Power and Lighting Company
	Stima Plaza, Kolobot Road, Parklands
	7 <sup>th</sup> Floor
	P.O Box 30099 - 00100
	Nairobi, Kenya
	Telephone: +254 – (0)711031731
	The deadline for the submission of bids is: Date 09th NOVEMBER 2016
	Time: 10:00Hrs East African Time

## B) <u>CHANGES HAVE BEEN MADE ON SECTION III-EVALUATION AND</u> <u>QUALIFICATION CRITERIA AS TO READ</u>;

#### 1. Evaluation

### 1.1.1 Technical Requirements for Facilities

- Equipment and materials supplied shall meet the technical requirements, requirements of type test, routine test, and electrical test after installation as specified in technical specifications
- 2. The manufacturer of the major equipment including
  - i. RTU/Gateway
  - ii. Telecommunications Equipment
  - iii. Switches
  - iv. Fibre Plants

is required to have been awarded a valid ISO: 9001 Certificate or equivalent Quality Assurance Certification.

is required to have been awarded a valid ISO: 9001 Certificate or equivalent Quality Assurance Certification.

The manufacturers of major equipment above (RTU/Gateway, Telecommunications Equipment, Switches and Fibre Plants) must have supplied similar equipment that have been in service for at least five (5) years outside the country of manufacture

#### 1.2 Economic Evaluation

The following factors and methods will apply:

#### (a) Time Schedule:

Time to complete the Plant and Installation Services from the effective date specified in Article 3 of the Contract Agreement for determining time for completion of precommissioning activities is: 18 months, and shall include time for design services of the contract. No credit will be given for earlier completion. Bids offering a completion date beyond the maximum designated period shall be rejected.

### (b) Operating and Maintenance Costs

The price of recommended spare parts quoted in Price Schedule No. 6 shall not be considered for evaluation.

#### (c) Functional Guarantees of the facilities

The minimum (or maximum) requirements stated in the Specification for functional guarantees required in the Specification are:

## C) CHANGES HAVE BEEN MADE ON THE VARIOUS FORMS OF SECTION IVBIDDING FORMS AS LISTED BELOW;

## 1. Price Schedule Lot 1 to Lot 3

## Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad

## Lot 1: Schedule No.1:

Plant	and Mandatory Spare Parts Supplied from A	broad				
1	SCADA EQUIPMENT	AT SUBS	OITAT	NS		
Item No.	Description	Code <sup>1</sup>	Unit	Qty	Unit Price (CIP to include clearing and forwarding charges to final destination)	Total Price
				1	2	(1x2)
	SCADA Equipment at Substations					
A.	Nairobi Region Substations					
1	Industrial 66/11 kV					
1.1	New RTU / Re-use exisitng RTU		N°.	1		
1.2	Equipment and material for adaptation works		Lot	1		
1.3	48 V-DC Power Supply		Set	1		
2	Kikuyu 66/11 kV					
2.1	New RTU / re-use exisitng RTU		N°.	1	·	
2.2	Equipment and material for adaptation works		Lot	1		
2.3	48 V-DC Power Supply		Set	1		
3	Machakos 33/11 kV					
3.1	New RTU / re-use exisitng RTU		N°.	1		
3.2	Equipment and material for adaptation works		Lot	1		

3.3	48 V-DC Power Supply	Set	1		
4	Nairobi West 66/11kV				54
4.1	New RTU / re-use exisitng RTU	N°.	1		
4.2	Equipment and material for adaptation works	Lot	1		
4.3	48 V-DC Power Supply	Set	1	:	
5	Nyaga 33/11 kV				
5.1	New Remote Terminal Unit (RTU)	N°.	1		
5.2	Equipment and material for adaptation works	Lot	1		
5.3	48 V-DC Power Supply	Set	1		
6	Limuru 66/11 kV			i	
6.1	New RTU / re-use exisitng RTU	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1		
7	Athi river 220/66 kV				
7.1	New RTU / re-use exisitng RTU	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		*
7.3	48 V-DC Power Supply	Set	1		
8	Nairobi North 220/66 kV				
8.1	New RTU / re-use exisitng RTU	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
A	Nairobi Region Substations / Power Stations Totals				
В	Mount Kenya Region Substations / Power Stations				
8	Embu 33/11 kV				
8.1	New Remote Terminal Unit (RTU)	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
8.3	48 V-DC Power Supply	Set	1		
9	Karatina 33/11 kV				

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9.1	New Remote Terminal Unit (RTU)	N°.	1	ļ	
9.2	Equipment and material for adaptation works	Lot	1		
9.3	48 V-DC Power Supply	Set	1		=
			ļ		
10	Kerugoya 33/11 kV		$\perp$		
10.1	New Remote Terminal Unit (RTU)	N°.	1		
10.2	Equipment and material for adaptation works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		
11	Nanyuki 33/11 kV				
11.1	New Remote Terminal Unit (RTU)	N°.	1		
11.2	Equipment and material for adaptation works	Lot	1		
11.3	48 V-DC Power Supply	Set	1		
			1		
12	Kinoru 33/11 kV (Meru 33/11 kV)				
12.1	New Remote Terminal Unit (RTU)	N°.	1		
12.2	Equipment and material for adaptation works	Lot	1		
12.3	48 V-DC Power Supply	Set	1		
13	Kiganjo 33/11 kV				
13.1	New Remote Terminal Unit (RTU)	N°.	1		
13.2	Equipment and material for adaptation works	Lot	1		
13.3	48 V-DC Power Supply	Set	1		
			-		
14	Kindaruma 11/132 kV		-		
14.1	New Remote Terminal Unit (RTU)	Lot	1		
14.2	Equipment and material for adaptation works	Lot	1		
15	Kiganjo 132/33 kV Capacitor bank bays	<del> </del>	1		
		8.10	+ -		
15.1	New RTU / expand exisitng RTU	N°.	1		
15.2	Equipment and material for adaptation works	Lot	1		
16	Nanyuki 132/33kV Capacitor bank bays			<u></u>	
16.1	New RTU / expand exisitng RTU	N°.	1		
16.2	Equipment and material for adaptation works	Lot	1		
17	Meru 132/33kV Capacitor bank bays				
17.1	New RTU / expand exisitng RTU	N°.	1		
17.2	Equipment and material for adaptation works	Lot	1		
	Page 6 o	C+08			

В	Mount Kenya Region Substations / Power Stations Totals					
С	Mandatory spare parts RTU's and substation works					
	remarks:					
	Tenderer shall provide a list of recommended spare parts for long-term operation					
1.1	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools		No.	1		
1.2	Interface Testing Equipment for all digital and analogue I/O-signals		No.	1		
1.3	Interface Testing Equipment for Communication (104 and 101 etc)from/to SCADA/EMS-System incl. Software		No.	1		
1.4	Equipment for adaptation works		set	1		
1.5	Configuration tool/Laptop for RTUs ,Switches		set	2		
1.6	48 V DC Supply equipment		set	1		
1.7	Ferrule Marking Machine		set	2		
С	Mandatory spare parts RTU's and substation works Totals					
		- 1 -				
	Telecommunication Eq	uipme	nt at Si	ıbstati	ons	
Item No.	Description	Code <sup>1</sup>	Unit	Qty	Unit Price (CIP to include clearing and forwarding charges to final destination)	Total Price
				-1	-2	(1x2)
A.	Nairobi Region Substations					
1	Donholm 11kV SS					
1.1	Uplink Switches for Peer to Peer Connection		No.	2		
1.2	Heavy Duty Substation Switch		No.	1		
1.3	Installation and Integration Materials		Lot	1		
2	Industrial 66/11 kV					
2.1	Supply of ADSS FO to Peer Link End		Lot	1		
2.2	Uplink Switches for Peer to Peer Connection		No.	2		

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2.3	Heavy Duty Substation Switch		No.	1	 ļ
2.4	Installation and Integration Materials		Lot	1	
3	Karen 66/11 kV				
3.1	SDH Multiplexers		No.	1	
3.2	Installation and Integration Materials		Lot	1	
4	Kikuyu 66/11 kV				
4.1	SDH Multiplexers		No.	1	
4.2	Installation and Integration Materials		Lot	1	
5	Limuru 66/11 kV				
5.1	SDH Multiplexers		No.	1	
5.2	Installation and Integration Materials		Lot	1	
6	Machakos 33/11 kV				
6.1	SDH Multiplexers		No.	1	
6.2	Installation and Integration Materials		Lot	1	
7	Airport 33/11 kV				
7.1	Uplink Switches for Peer to Peer Connection		No.	2	
7.2	Heavy Duty Substation Switch		No.	1	
7.3	Installation and Integration Materials		Lot	1	
8	Nyaga 33/11 kV				
8.1	Supply of ADSS FO to Peer Link End		Lot	1	
8.2	Uplink Switches for Peer to Peer Connection		No.	2	
8.3	Heavy Duty Substation Switch		No.	1	
8.4	Installation and Integration Materials		Lot	1	
9	EPZ 66/11 kV				
9.1	SDH Multiplexers		No.	1	
9.2	Installation and Integration Materials		Lot	1	
10	Dandora-Nairobi North 220 kV				
10.1	Supply OPGW FO Via Thika Road 220		km	50	
10.2	48 cores ODF		No.	4	
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11	Tana 66/11 kV					
11.1	Supply of SDH Mux	L	ot	1		
11.2	Installation /Integration Materials of SDH Mux	L	ot	1	·	
12	Athi river 220/66 kV					-
12.1	Supply of SDH Mux	L	ot	1		
12.2	Installation /Integration Materials of SDH Mux	L	ot	1		
13	Cathedral 66/11 kV					
13.1	Supply of SDH Mux	L	ot	1		
13.2	Installation /Integration Materials of SDH Mux	L	ot	1		
А	Nairobi Region Substations / Power Stations Totals					
В	Mount Kenya Region Substations / Power Stations					
1	Embu East SS					
1.1	Uplink Switches for Peer to Peer Connection	N	О.	2		
1.2	Heavy Duty Substation Switch	N	ο.	1		
2	Embu 33/11 kV					
2.2	Uplink Switches for Peer to Peer Connection	N	0.	2		
2.3	Heavy Duty Substation Switch	N	0.	1		
						_
3	Karatina 33/11 kV					
3.1	Supply FO to Peer Link End	L	ot	1		
3.2	Uplink Switches for Peer to Peer Connection	N	0.	2		
3.3	Heavy Duty Substation Switch	N	0.	1		
3.4	Installation & requisite Integration Materials	L	ot	1		
		_				
4	Kerugoya 33/11 kV					
4.1	Supply FO to Peer Link End	L	ot	1		
4.2	Uplink Switches for Peer to Peer Connection	N	0.	2		
4.3	Heavy Duty Substation Switch	N	0.	1		

4.4   Installation & requisite Integration Materials				1	T	1		
6.1 Uplink Switches for Peer to Peer Connection  6.2 Heavy Duty Substation Switch  6.3 Installation & requisite Integration Materials  7 Othaya 33/11 kV  7.1 Supply of ADSS FO to Peer Link End  7.2 Uplink Switches for Peer to Peer Connection  7.3 Heavy Duty Substation Switch  7.4 Installation & requisite Integration Materials  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132  Link End  9.2 Supply SDH MUX  9.3 Extension Materials at Kamburu 220  Lot 1  B Mount Kenya Region Substations / Power Stations Totals  C Integration works  1 AOSS FO Cable (10%)  AOSS FO Cable (10%)  Multiplexers  No. 1  Uplink Switches  No. 2  OPGW /ADSS Requisite Accessories  Lowkm 35km  3 Multiplexers  No. 1  Uplink Switches  No. 2  FC — LC Patch Cords  S FP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  No. 4  Mandatory spare parts Telcoms and Integration works Totals  C Mandatory spare parts Telcoms and Integration works  No. 2  OPGW /ADSS Requisite Accessories  No. 1  Multiplexers  No. 1  No. 2  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.	4.4	Installation & requisite Integration Materials	Lot	1				
6.1 Uplink Switches for Peer to Peer Connection  6.2 Heavy Duty Substation Switch  6.3 Installation & requisite Integration Materials  7 Othaya 33/11 kV  7.1 Supply of ADSS FO to Peer Link End  7.2 Uplink Switches for Peer to Peer Connection  7.3 Heavy Duty Substation Switch  7.4 Installation & requisite Integration Materials  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132  Link End  9.2 Supply SDH MUX  9.3 Extension Materials at Kamburu 220  Lot 1  B Mount Kenya Region Substations / Power Stations Totals  C Integration works  1 AOSS FO Cable (10%)  AOSS FO Cable (10%)  Multiplexers  No. 1  Uplink Switches  No. 2  OPGW /ADSS Requisite Accessories  Lowkm 35km  3 Multiplexers  No. 1  Uplink Switches  No. 2  FC — LC Patch Cords  S FP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  No. 4  Mandatory spare parts Telcoms and Integration works Totals  C Mandatory spare parts Telcoms and Integration works  No. 2  OPGW /ADSS Requisite Accessories  No. 1  Multiplexers  No. 1  No. 2  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.								
6.2 Heavy Duly Substation Switch  6.3 Installation & requisite Integration Materials  7 Othaya 33/11 kV  7.1 Supply of ADSS FO to Peer Link End  7.2 Uplink Switches for Peer to Peer Connection  7.3 Heavy Duly Substation Switch  7.4 Installation & requisite Integration Materials  7.5 Link End  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/1322 km 40  9.2 Supply SDH MUX  1.0 Link End  9.3 Extension Materials at Kamburu 220  1.0 Link End  1.0 Mandatory spare parts Telcoms and Integration works  1. ADSS FO Cable (10%)  2. OPGW IADSS Requisite Accessories  3. Multiplexers  4. Uplink Switches  5. Station Switches  6. ODFs  7. FC – LC Patch Cords  8. SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  No. 4  1. TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  1. Bidders shall enter a code representing the country of origin of all imported plant and equipment.	6	Kinoru 33/11 kV (Meru 33/11 kV)						
6.3 Installation & requisite Integration Materials	6.1	Uplink Switches for Peer to Peer Connection	No.	2				
7	6.2	Heavy Duty Substation Switch	No.	1				
7.1 Supply of ADSS FO to Peer Link End  7.2 Uplink Switches for Peer to Peer Connection  7.3 Heavy Duty Substation Switch  7.4 Installation & requisite Integration Materials  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX  9.3 Extension Materials at Kamburu 220  1.0 Lot 1  1.0 Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%)  2 OPGW /ADSS Requisite Accessories  3 Multiplexers  No. 1  4 Uplink Switches  No. 2  7 FC – LC Patch Cords  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.	6.3	Installation & requisite Integration Materials	Lot	1				
7.1 Supply of ADSS FO to Peer Link End  7.2 Uplink Switches for Peer to Peer Connection  7.3 Heavy Duty Substation Switch  7.4 Installation & requisite Integration Materials  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX  9.3 Extension Materials at Kamburu 220  1.0 Lot 1  1.0 Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%)  2 OPGW /ADSS Requisite Accessories  3 Multiplexers  No. 1  4 Uplink Switches  No. 2  7 FC – LC Patch Cords  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.								
7.2 Uplink Switches for Peer to Peer Connection No. 2  7.3 Heavy Duty Substation Switch No. 1  7.4 Installation & requisite Integration Materials Lot 1  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX Lot 1  9.3 Extension Materials at Kamburu 220 Lot 1  B Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%) KMS 35  2 OPGW /ADSS Requisite Accessories Lovkm 35km  3 Multiplexers No. 1  4 Uplink Switches No. 3  5 Station Switches No. 2  6 ODFS No. 2  7 FC – LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.	7	Othaya 33/11 kV						
7.3 Heavy Duty Substation Switch  7.4 Installation & requisite Integration Materials  9 Kiambere 220/33/11  9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX  9.3 Extension Materials at Kamburu 220 Lot 1  B Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%)  2 OPGW /ADSS Requisite Accessories  3 Multiplexers  No. 1  4 Uplink Switches  No. 2  FC – LC Patch Cords  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  C Mandatory spare parts Telcoms and Integration works  1 TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  *Bidders shall enter a code representing the country of origin of all imported plant and equipment.	7.1	Supply of ADSS FO to Peer Link End	Lot	1				
7.4 Installation & requisite Integration Materials	7.2	Uplink Switches for Peer to Peer Connection	No.	2				
9 Kiambere 220/33/11 9.1 Supply of OPGW FO to Kamburu 220/132 km 40 9.2 Supply SDH MUX Lot 1 9.3 Extension Materials at Kamburu 220 Lot 1  B Mount Kenya Region Substations / Power Stations Totals C Integration works 1 ADSS FO Cable (10%) KMS 35 2 OPGW /ADSS Requisite Accessories Lot/km 35km 3 Multiplexers No. 1 4 Uplink Switches No. 3 5 Station Switches No. 2 6 ODFs No. 2 7 FC – LC Patch Cords No. 4 8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4 C Mandatory spare parts Telcoms and Integration works Totals D TOTAL (to Schedule No. 5. Grand Summary) Name of Bidder  Notes  * Bidders shall enter a code representing the country of origin of all imported plant and equipment.	7.3	Heavy Duty Substation Switch	No.	1				
9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX Lot 1  9.3 Extension Materials at Kamburu 220 Lot 1  B Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%) KMS 35  2 OPGW /ADSS Requisite Accessories Lot/km 35km  3 Multiplexers No. 1  4 Uplink Switches No. 3  5 Station Switches No. 2  6 ODFs No. 2  7 FC – LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	7.4	Installation & requisite Integration Materials	Lot	1				
9.1 Supply of OPGW FO to Kamburu 220/132 km 40  9.2 Supply SDH MUX Lot 1  9.3 Extension Materials at Kamburu 220 Lot 1  B Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%) KMS 35  2 OPGW /ADSS Requisite Accessories Lot/km 35km  3 Multiplexers No. 1  4 Uplink Switches No. 3  5 Station Switches No. 2  6 ODFs No. 2  7 FC – LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.								
9.1 Link End 9.2 Supply SDH MUX 9.3 Extension Materials at Kamburu 220 Lot 1  B Mount Kenya Region Substations / Power Stations Totals C Mandatory spare parts Telcoms and Integration works 1 ADSS FO Cable (10%) C OPGW /ADSS Requisite Accessories Lot/km 35km Multiplexers No. 1  Uplink Switches No. 2  Station Switches No. 2  FC – LC Patch Cords No. 4  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals D TOTAL (to Schedule No. 5. Grand Summary) Name of Bidder  Notes Bidders shall enter a code representing the country of origin of all imported plant and equipment.	9	Kiambere 220/33/11						
9.3 Extension Materials at Kamburu 220  B	9.1	Supply of OPGW FO to Kamburu 220/132 Link End	km	40				
B Mount Kenya Region Substations / Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%) KMS 35  2 OPGW /ADSS Requisite Accessories Lot/km 35km  3 Multiplexers No. 1  4 Uplink Switches No. 3  5 Station Switches No. 2  6 ODFs No. 2  7 FC - LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	9.2	Supply SDH MUX	Lot	1				
Power Stations Totals  C Mandatory spare parts Telcoms and Integration works  1 ADSS FO Cable (10%)  2 OPGW /ADSS Requisite Accessories  3 Multiplexers  No. 1  4 Uplink Switches  No. 2  6 ODFs  No. 2  7 FC - LC Patch Cords  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	9.3	Extension Materials at Kamburu 220	Lot	1		<del> </del>		
Integration works  1 ADSS FO Cable (10%)  2 OPGW /ADSS Requisite Accessories  3 Multiplexers  4 Uplink Switches  5 Station Switches  6 ODFs  7 FC - LC Patch Cords  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	В	Mount Kenya Region Substations / Power Stations Totals						
2 OPGW /ADSS Requisite Accessories  Lot/km 35km  Multiplexers  No. 1  Uplink Switches  No. 2  Station Switches  No. 2  ODFs  No. 2  FC - LC Patch Cords  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	С							
Multiplexers  Mo. 1  Uplink Switches  No. 3  Station Switches  No. 2  No. 2  FC - LC Patch Cords  No. 4  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Mandatory spare parts Telcoms and Integration works Totals  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  No. 4  No	1	ADSS FO Cable (10%)	KMS	35				
4 Uplink Switches No. 3  5 Station Switches No. 2  6 ODFs No. 2  7 FC – LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	2	OPGW /ADSS Requisite Accessories	Lot/km	35km				
5 Station Switches  6 ODFs  No. 2  7 FC – LC Patch Cords  No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	3	Multiplexers	No.	1				
6 ODFs No. 2  7 FC - LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals D TOTAL (to Schedule No. 5. Grand Summary) Name of Bidder  Signature of Bidder  Notes  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	4	Uplink Switches	No.	3				
7 FC - LC Patch Cords No. 4  8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS) No. 4  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  **Bidders shall enter a code representing the country of origin of all imported plant and equipment.	5	Station Switches	No.	2	<del></del>			
8 SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	6	ODFs	No.	2				
C Mandatory spare parts Telcoms and Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	7	FC – LC Patch Cords	No.	4				
Integration works Totals  D TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	8	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4				
Summary)  Name of Bidder  Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	С							
Signature of Bidder  Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.	D							
Notes  Bidders shall enter a code representing the country of origin of all imported plant and equipment.		Name of Bidder				<u></u>		
Bidders shall enter a code representing the country of origin of all imported plant and equipment.		Signature of Bidder						
Bidders shall enter a code representing the country of origin of all imported plant and equipment.								
				·	re currencies.			

# Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

Plant	and Mandatory Spare Parts Supplied from	n Local						
SCADA EQUIPMENT AT SUBSTATIONS								
Item No.	Description		Qty	Unit Price (EXW)	Total Price			
			-1	-2	(1x2)			
	SCADA Equipment at Substations							
A.	Nairobi Region Substations							
1	Industrial 66/11 kV							
1.1	New RTU / Re-use exisitng RTU	N°.	1					
1.2	Equipment and material for adaptation works	Lot	1					
1.3	48 V-DC Power Supply	Set	1					
1.4	Installation & requisite Integration materials	Lot	1					
2	Kikuyu 66/11 kV							
2.1	New RTU / re-use exisitng RTU	N°.	1	-				
2.2	Equipment and material for adaptation works	Lot	1					
2.3	48 V-DC Power Supply	Set	1					
2.4	Installation & requisite Integration materials	Lot	1					
3	Machakos 33/11 kV				<u> </u>			
3.1	New RTU / re-use exisitng RTU	N°.	1					
3.2	Equipment and material for adaptation works	Lot	1					
3.3	48 V-DC Power Supply	Set	1					
3.4	Installation & requisite Integration materials	Lot	1					
4	Nairobi West 66/11kV							
4.1	New RTU / re-use exisiting RTU	N°.	1					
4.2	Equipment and material for adaptation works	Lot	1					
4.3	Integration to the Scada Central system	Lot	1					
4.4	Installation & requisite Integration materials	Lot	1					

5	Nyaga 33/11 kV			1	
5.1	New Remote Terminal Unit (RTU)	N°.	1		
5.2	Equipment and material for adaptation works	Lot	1		
5.3	48 V-DC Power Supply	Lot			
5.4	Installation & requisite Integration materials	Lot	1		
6	Limuru 66/11 kV				
6.1	New RTU / re-use exisiting RTU	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1		
6.4	Installation & requisite Integration materials	Lot	1		
<u> </u>			ļ <u></u>		
7	Athi river 220/66 kV				
7.1	New RTU / re-use exisiting RTU	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Set	1		>
7.4	Installation & requisite Integration materials	Lot	1		
8	Nairobi North 220/66 kV				
8.1	New RTU / re-use exisiting RTU	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
Α	Nairobi Region Substations / Power Stations Totals				
В	Mount Kenya Region Substations / Power Stations				
8	Embu 33/11 kV				
8.1	New Remote Terminal Unit (RTU)	N°.	1		=
8.2	Equipment and material for adaptation works	Lot	1		
8.3	48 V-DC Power Supply	Set	1		
8.4	Installation & requisite Integration materials	Lot	1		
9	Karatina 33/11 kV				
9.1	New Remote Terminal Unit (RTU)	N°.	1		
	Equipment and material for adaptation				
9.2	works	Lot	1		
9.3	48 V-DC Power Supply	Set	1		
9.4	Installation & requisite Integration materials	Lot	1		
4.0	16.0046.11				
10	Kerugoya 33/11 kV				
10.1	New Remote Terminal Unit (RTU)  Equipment and material for adaptation	N°.	1		
10.2	works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		

11 N 11.1 N 11.2 E w 11.3 4	Nanyuki 33/11 kV New Remote Terminal Unit (RTU) Equipment and material for adaptation	N°.		
11.1 N 11.2 E w 11.3 4	New Remote Terminal Unit (RTU) Equipment and material for adaptation	N°		
11.2 E w 11.3 4	Equipment and material for adaptation	NI°		
11.2 w		14 .	1	
11.3 4	vorks	N°.	1	
11.4 Ir	8 V-DC Power Supply	Set	1	
	nstallation & requisite Integration materials	Lot	1	
12 K	(inoru 33/11 kV (Meru 33/11 kV)			
12.1 N	New Remote Terminal Unit (RTU)	N°.	1	
1//	Equipment and material for adaptation vorks	Lot	1	
12.3 4	8 V-DC Power Supply	Set	1	
12.4 lr	nstallation & requisite Integration materials	Lot	1	
13 K	(iganjo 33/11 kV			
13.1 N	New Remote Terminal Unit (RTU)	N°.	11	
	Equipment and material for adaptation vorks	Lot	1	
13.3 4	18 V-DC Power Supply	Set	1	
13.4 lr	nstallation & requisite Integration materials	Lot	1	
14 K	Kindaruma 11/132 kV			
	Equipment and material for adaptation vorks	Lot	1	
14.2 N	New Remote Terminal Unit (RTU)	Lot	1	
15 K	Kiganjo 132/33 kV Capacitor bank bays			
15.1 N	New RTU / expand exisitng RTU	N°.	1	
15/1	Equipment and material for adaptation works	Lot	1	
16 A	Nanyuki 132/33 kV Capacitor bank bays			
16.1 N	New RTU / expand exisitng RTU	N°.	1	
	Equipment and material for adaptation			
16/1	vorks	Lot	1	
17 N	Meru 132/33 kV Capacitor bank bays			
17.1 N	New RTU / expand exisitng RTU	N°.	1	
	Equipment and material for adaptation works	Lot	1	
	Mount Kenya Region Substations / Power Stations Totals	_		
	Mandatory spare parts RTU's and substation works			
Tr.	remarks:			

1.1	Tenderer shall provide a list of recommended spare parts for long-term operation			12	
1.2	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1		
1.3	Interface Testing Equipment for all digital and analogue I/O-signals	No	1		
1.4	Interface Testing Equipment for Communication (104 and 101 etc)from/to SCADA/EMS-System incl. Software	No.	1		
1.5	Equipment for adaptation works	No.	1		
1.6	Configuration tool/Laptop for RTUs ,Switches	set	2		
1.7	48 V DC Supply equipment	set	1		
1.8	Ferrule Marking Machine	set	2		
С	Mandatory spare parts RTU's and substation works Totals				
	Telecommunication Equ	ipmen	t at Sub	stations	
Item	Description	Unit	Qty	Unit Price (EXW)	Total Price
No.	Description		City	(=>,,,,	
			-1	-2	(1x2)
A.	Nairobi Region Substations				
1	Donholm 11kV SS				
1.1	Uplink Switches for Peer to Peer Connection	No.	2		
1.2	Heavy Duty Substation Switch	No.	1		
1.3	Installation & requisite Integration works	Lot	1		
2	Industrial 66/11 kV		-		
2.1	Supply of ADSS FO to Peer Link End	Lot	1		
2.2	Uplink Switches for Peer to Peer Connection	No.	2		
2.3	Heavy Duty Substation Switch	No.	1		
2.4	Installation and Integration Materials	Lot	1		
3	Karen 66/11 kV				
3.1	SDH Multiplexers	No.	1		
3.2	Installation and Integration Materials	Lot	1		
4	Kikuyu 66/11 kV				
4.1	SDH Multiplexers	No.	1	<u> </u>	
4.2	Installation and Integration Materials	Lot	1		
	3		<u> </u>	<u> </u>	
5	Limuru 66/11 kV				
5.1	SDH Multiplexers	No.	1		
5.2	Installation and Integration Materials	Lot			

	6	Machakos 33/11 kV			
ľ	6.1	SDH Multiplexers	No.	1	

6.2	Installation and Integration Materials	Lot	1	
7	Airport 33/11 kV			
7.1	Uplink Switches for Peer to Peer Connection	No.	2	
7.2	Heavy Duty Substation Switch	No.	1	
7.3	Installation and Integration Materials	Lot	1	
8	Nyaga 33/11 kV			
8.1	Supply of ADSS FO to Peer Link End	Lot	1	
8.2	Connection		2	
8.3	Heavy Duty Substation Switch	No.	1	
8.4	Installation and Integration Materials	Lot	1	
9	EPZ 66/11 kV			
9.1	SDH Multiplexers	No,	1	
9.2	Installation and Integration Materials	Lot	1	
10	Dandora 220 kV			
10.1	Supply OPGW FO Via Thika Road 220 to Nairobi North	No.	2	
10.2	48 cores ODF	No.	4	
11	Tana 66/11 kV	_		
11.1	Supply of SDH Mux	Lot	1	
11.2	Installation /Integration Materials of SDH Mux	Lot	1	
12	Athi river 220/66 kV			 
12.1	Supply of SDH Mux	Lot	11	
12.2	Installation /Integration Materials of SDH Mux	Lot	1	
				0
13	Cathedral 66/11 kV			
13.1	Supply of SDH Mux	Lot	1	
13.2	Installation /Integration Materials of SDH Mux	Lot	1	

	Material Decision of the Control of	T T	Т	T	T
Α	Nairobi Region Substations / Power Stations Totals				
В	Mount Kenya Region Substations / Power Stations				
	=				
1	Embu East SS				
1.1	Uplink Switches for Peer to Peer Connection	No.	2		
1.2	Heavy Duty Substation Switch	No.	1		
2	Embu 33/11 kV				
2.2	Uplink Switches for Peer to Peer Connection	No.	2		
2.3	Heavy Duty Substation Switch	No.	1		
		<u> </u>	<u> </u>		
3.1	Karatina 33/11 kV	1 -4			
	Supply FO to Peer Link End Uplink Switches for Peer to Peer	Lot	1		
3.2	Connection	No.	2		
3.3	Heavy Duty Substation Switch	No.	1		
3.4	Installation & requisite Integration Materials	Lot	1		
4	Kerugoya 33/11 kV				
4.1	Supply FO to Peer Link End	Lot	1		-
4.2	Uplink Switches for Peer to Peer	No.	2		
4.3	Connection Heavy Duty Substation Switch	No.	1		
4.4	Installation & requisite Integration Materials	Lot	1		
	3.000				
5	Kinoru 33/11 kV (Meru 33/11 kV)				
5.1	Uplink Switches for Peer to Peer Connection	No.	2		
5.2	Heavy Duty Substation Switch	No.	1		
5.3	Installation & requisite Integration Materials	Lot	1		
6	Othaya 33/11 kV				
6.1	Supply of ADSS FO to Peer Link End	Lot	1		
6.2	Uplink Switches for Peer to Peer Connection	No.	2		
6.3	Heavy Duty Substation Switch	No.	1		
6.4	Installation & requisite Integration Materials	Lot	1		
7	Kiambere 220/33/11				
	Supply of OPGW FO to Kamburu 220/132		4		
7.1	Link End	Lot	1		
7.2	Supply SDH MUX	Lot	1		
7.3	Extension Materials at Kamburu 220	Lot	1	<u></u>	

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Mount Kenya Region Substations / Power Stations Totals				
Mandatory spare parts Telcoms and Integration works				
ADSS FO Cable (10%)	KMS	35		
OPGW /ADSS Requisite Accessories	Lot/k m	35		
Multiplexers	No.	1		
Uplink Switches	No.	3		
Station Switches	No.	2		
ODFs	No.	2		
FC - LC Patch Cords	No.	4		
SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4		
Complete Radio Unit, UHF (335-345MHZ)	No.	1		
Complete Radio Unit, UHF (360-370MHZ)	No.	1		
Mandatory spare parts Telcoms and Integration works Totals				
Test Tools Specifications				
Splicing Kit	No.	1		
Termination Kit	No.	1		
Fault Locator	No.	1		
Optical Test Set	No.	1		
Rugged Test Laptops	No.	2		
				ĺ
Test Tools Specifications Totals				
TOTAL (to Schedule No. 5. Grand Summary)				
Name of Bidder				
Signature of Bidder				
	Mandatory spare parts Telcoms and Integration works  ADSS FO Cable (10%)  OPGW /ADSS Requisite Accessories  Multiplexers  Uplink Switches  Station Switches  ODFs  FC - LC Patch Cords  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Complete Radio Unit, UHF (335-345MHZ)  Complete Radio Unit, UHF (360-370MHZ)  Mandatory spare parts Telcoms and Integration works Totals  Test Tools Specifications  Splicing Kit  Termination Kit  Fault Locator  Optical Test Set  Rugged Test Laptops  Test Tools Specifications Totals  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder	Mandatory spare parts Telcoms and Integration works  ADSS FO Cable (10%)  OPGW /ADSS Requisite Accessories  Multiplexers  No.  Uplink Switches  Station Switches  No.  FC - LC Patch Cords  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Complete Radio Unit, UHF (335-345MHZ)  Complete Radio Unit, UHF (360-370MHZ)  Mandatory spare parts Telcoms and Integration works Totals  Test Tools Specifications  Splicing Kit  No.  Fault Locator  Optical Test Set  Rugged Test Laptops  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder	Mandatory spare parts Telcoms and Integration works  ADSS FO Cable (10%) KMS 35  OPGW /ADSS Requisite Accessories Lot/k M 35  Multiplexers No. 1  Uplink Switches No. 2  ODFS No. 2  FC - LC Patch Cords No. 4  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Complete Radio Unit, UHF (335-345MHZ) No. 1  Complete Radio Unit, UHF (360-370MHZ) No. 1  Mandatory spare parts Telcoms and Integration works Totals  Test Tools Specifications  Splicing Kit No. 1  Fault Locator No. 1  Rugged Test Laptops No. 2  Test Tools Specifications Totals  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder	Mandatory spare parts Telcoms and Integration works  ADSS FO Cable (10%) KMS 35  OPGW /ADSS Requisite Accessories Duling Switches  Uplink Switches  No. 1  Uplink Switches  No. 2  ODFS  FC - LC Patch Cords  SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)  Complete Radio Unit, UHF (335-345MHZ)  Complete Radio Unit, UHF (360-370MHZ)  Mandatory spare parts Telcoms and Integration works Totals  Test Tools Specifications  Splicing Kit  No. 1  Fault Locator  Optical Test Set  Rugged Test Laptops  TOTAL (to Schedule No. 5. Grand Summary)  Name of Bidder

## <u>Notes</u>

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid

## Schedule No. 3. Design Services

Lot 1: Schedule No.3

Desig	n Services						
	SCADA	& Telec	ommu	nication			
				Unit	Unit Price		Price
Item No.	Description	Unit	Qty	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
			1	2	3	(1x2)	(1x3)
	SCADA Equipment at Substations						
Α.	Nairobi & Mt Kenya Region Substations						
100							
100	Industrial 66/11 kV Substation Adaptation /Engineering					<u> </u>	
101	Designs	Lot	1				
	Data Engineering Telecommunication Design &	Lot	1	<u> </u>			
103	Integration	Lot	1				
200	Kikuyu 66/11 kV						
201	Substation Adaptation /Engineering Designs	Lot	1				
202	Data Engineering	Lot	1				
203	Telecommunication Design & Integration	Lot	1				
200							
300	Machakos 33/11 kV Substation Adaptation /Engineering	Lot	1				
302	Designs Data Engineering	Lot	1				
303	Telecommunication Design & Integration	Lot	1				
400	Nairobi West 66/11kV						
401	Substation Adaptation /Engineering Designs	Lot	1				
402	Data Engineering	Lot	1				
403	Telecommunication Design & Integration	Lot	1				
500	Nyaga 33/11 kV			·	-		
501	Substation Adaptation /Engineering Designs	Lot	1				
502	Data Engineering	Lot	1				
503	Telecommunication Design & Integration	Lot	1				

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600	Limuru 66/11 kV					
601	Substation Adaptation /Engineering Designs	Lot	1			
602	Data Engineering	Lot	1		6	
603	Telecommunication Design & Integration	Lot	1			
700	EPZ 66/11 kV					
701	Telecommunication Design & Integration	Lot	1	 		!
800	Embu 33/11 kV					
801	Substation Adaptation /Engineering Designs	Lot	1			
802	Data Engineering	Lot	1			
803	Telecommunication Design & Integration	Lot	1	<u> </u>		
					_	
900	Karatina 33/11 kV					
901	Substation Adaptation /Engineering Designs	Lot	1			
902	Data Engineering	Lot	1			
903	Telecommunication Design & Integration	Lot	1			
			_		<del>                                     </del>	
1000	Kerugoya 33/11 kV			 		
1001	Substation Adaptation /Engineering Designs	Lot	1			
1002	Data Engineering	Lot	1			
1003	Telecommunication Design & Integration	Lot	1	 -		
4400						
1100	Nanyuki 33/11 kV Substation Adaptation /Engineering		_	 -	<u> </u>	-
1101	Designs	Lot	1	 		
1102	Data Engineering	Lot	1	 		
1103	Telecommunication Design & Integration	Lot	1			
1200	Kinoru 333/11 kV (Meru 33/11 kV) Substation Adaptation /Engineering			 		
1201	Designs	Lot	1			
1202	Data Engineering	Lot	1	 		
1203	Telecommunication Design & Integration	Lot	1	 		
1300	Kiganjo 33/11 kV					
1301	Substation Adaptation /Engineering Designs	Lot	1	_		
1302	Data Engineering	Lot	1			
1303	Telecommunication Design & Integration	Lot	1			

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1400	Kindaruma 11/132	İ					
1401	Substation Adaptation /Engineering Designs	Lot	1				-
1402	Data Engineering	Lot	1				
1500	Donholm 11kV SS						
1501	Telecommunication Design & Integration	Lot	1				
		ļ					
1600	Karen 66/11 kV		ļ				
1601	Telecommunication Design & Integration	Lot	1				
1700	Airport 33/11 kV			<del>                                     </del>			
	Telecommunication Design &	-	-				
1701	Integration	Lot	1				<u> </u>
1800	Tana 66/11 kV	-	-				
	Telecommunication Design &						
1801	Integration	Lot	1	<u> </u>			
1900	Embu East SS			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
1901	Telecommunication Design &	Lot	1				
	Integration	-	<u>'</u>		-		<u> </u>
2000	Othaya 33/11 kV						
2001	Substation Adaptation /Engineering Designs	Lot	1				
2002	Data Engineering	Lot	1				
2003	Telecommunication Design & Integration	Lot	1				
2100	Cathedral 66/11 kV						
	Installation and Integration of SDH						-
2101	Mux	Lot	1				
2200	Dandora 220 kV						
2201	Telecommunication Design & Integration	Lot	1				
2300	Nairobi North 220/66 kV						
2301	Substation Adaptation /Engineering Designs	Lot	1				
2302	Data Engineering	Lot	1				
2303	Telecommunication Design & Integration	Lot	1				
2400	Kiambere 220/33/11						
2401	Telecommunication Design & Integration	Lot	1				

	r			· · · · · · · · · · · · · · · · · · ·	T	1	1
2500	Athi river 220/66 kV						l
2300					-		
2501	Substation Adaptation /Engineering Designs	Lot	1				
2502	Data Engineering	Lot	1	_			
2503	Telecommunication Design & Integration	Lot	1				
2600	Kiganjo 132/33 kV Capacitor bank bays						
2601	Substation Adaptation /Engineering Designs	Lot	1	<u> </u>		<u></u>	
2602	Data Engineering	Lot	1				
2700	Nanyuki 132/33 kV Capacitor bank bays						
2701	Substation Adaptation /Engineering Designs	Lot	1				
2702	Data Engineering	Lot	1		<u> </u>		<u></u>
2800	Meru 132/33 kV Capacitor bank bays						
2801	Substation Adaptation /Engineering Designs	Lot	1				
2802	Data Engineering	Lot	1				
А	Nairobi & Mt Kenya Region Substations Totals						
В	TOTAL (to Schedule No. 5. Grand Summary)						
-	Name of Bidder						
	Signature of Bidder		_				

Notes

1 Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid.

## Schedule No. 4. Installation and Other Services

Lot 1: Schedule No.4

nstall	ation and other services		10000000				
	SCADA	EQUIPME	NT AT SU	BSTATIONS			
				Unit	Price	Tota	Price
Item No.	Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currenc Portion
			1	2	3	(1) x (2)	(1) x (3)
	SCADA Equipment at Substations						
Α.	Nairobi Region Substations						
1	Industrial 66/11 kV						
1.1	New RTU / Re-use exisitng RTU	N°.	1				
1.2	Equipment and material for adaptation works	Lot	1				
1.3	48 V-DC Power Supply	Lot	1				
1.4	Integration to the Scada Central system	Lot	1				
1.5	Installation & requisite Integration works	Lot	1				
2	Kikuyu 66/11 kV						
2.1	New RTU / re-use exisitng RTU	N°.	1				
2.2	Equipment and material for adaptation works	Lot	1				
2.3	48 V-DC Power Supply	Lot	1				
2.5	Integration to the Scada Central system	Lot	1			-	
2.5	Installation & requisite Integration works	Lot	1				
3	Machakos 33/11 kV						
3.1	New RTU / re-use exisitng RTU	N°.	1				
3.2	Equipment and material for adaptation works	Lot	1			<u> </u>	
3.3	48 V-DC Power Supply	Lot	1				
3.4	Integration to the Scada Central system	Lot	1				
3.5	Installation & requisite Integration works	Lot	1				

4	Nairobi West 66/11kV				
4.1	New RTU / re-use exisiting RTU	N°.	1		
4.1	Equipment and material for	Lot	1		
	adaptation works Integration to the Scada Central		<del>                                     </del>		
4.3	system Installation & requisite Integration	Lot	1		
4.4	works requisite integration	Lot	1		 
5	Nyaga 33/11 kV				 
5.1	New Remote Terminal Unit (RTU)	N°.	1		 
5.2	Equipment and material for adaptation works	Lot	1		
5.3	48 V-DC Power Supply	Lot	1 _		
5.4	Integration to the Scada Central system	Lot	1		
5.5	Installation & requisite Integration works	Lot	1		
6	Limuru 66/11 kV				
6.1	New RTU / re-use exisitng RTU	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Lot	1		
6.4	Integration to the Scada Central system	Lot	1		
6.5	Installation & requisite Integration works	Lot	1		
			<u> </u>		
7	Athi river 220/66 kV				
7.1	New Remote Terminal Unit (RTU)	N°,∈	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Lot	1		
7.4	Integration to the Scada Central system	Lot	1		
7.5	Installation & requisite Integration works	Lot	1		
7	Nairobi North 220/66 kV				
7.1	New RTU / re-use exisitng RTU	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Lot	1		
7.4	Integration to the Scada Central system	Lot	1		_
				 ·	 

А	Nairobi Region Substations / Power Stations Totals				W	
			1	<del></del>		<del> </del>
В	Mount Kenya Region Substations / Power Stations					
8	Embu 33/11 kV					
8.1	New Remote Terminal Unit (RTU)	N°.	1			
8.2	Equipment and material for adaptation works	Lot	1			
8.3	48 V-DC Power Supply	Lot	1			
8.4	Integration to the Scada Central system	Lot	1			
8.5	Installation & requisite Integration works	Lot	1			
9	Karatina 33/11 kV					
9.1	New Remote Terminal Unit (RTU)	N°.	1			
9.2	Equipment and material for adaptation works	Lot	1			
9.3	48 V-DC Power Supply	Lot	1			
9.4	Integration to the Scada Central system	Lot	1			<del>-</del> -
9.5	Installation & requisite Integration works	Lot	1			-
10	Kerugoya 33/11 kV					
10.1	New Remote Terminal Unit (RTU)	N°.	1			
10.2	Equipment and material for adaptation works	Lot	1			
10.3	48 V-DC Power Supply	Lot	1			
10.4	Integration to the Scada Central system	Lot	1			
10.5	Installation & requisite Integration works	Lot	1			
11	Nanyuki 33/11 kV				_	*
11.1	New Remote Terminal Unit (RTU)	N°.	1			
11.2	New RTU / re-use exisitng RTU	N°.	1			
11.3	Equipment and material for adaptation works	Lot	1			
11.4	Integration to the Scada Central system	Lot	1			
11.5	Installation & requisite Integration works	Lot	1			
12	Kinoru 33/11 kV (Meru 33/11 kV)					
12.1	New Remote Terminal Unit (RTU)	N°	1			

Equipment and material for adaptation works   Lot   1					 		
Integration to the Scada Central system   Lot   1   1   1   1   1   1   1   1   1	12.2	Equipment and material for adaptation works	Lot	1			
12.5   system   12.5   syste	12.3	48 V-DC Power Supply	Lot	1			
13.	12.4	system	Lot	1			
13.1   New Remote Terminal Unit (RTU)   N°.   1	12.5		Lot	1			
13.1   New Remote Terminal Unit (RTU)   N°.   1							
13.1   (RTU)	13	Kiganjo 33/11 kV					
13.3   adaptation works	13.1	(RTU)	N°.	1			
13.4   Integration to the Scada Central system	13.2		Lot	1			
13.4   system	13.3	48 V-DC Power Supply	Lot	1			
14.1   New Remote Terminal Unit (RTU)   N°.   1	13.4		Lot	1	 		
14.1 New Remote Terminal Unit (RTU)  14.2 Equipment and material for adaptation works  14.3 Integration to the Scada Central system  14.4 Installation & requisite Integration works  15.4 New RTU / expand existing RTU  15.2 adaptation to the Scada Central system  15.4 Installation & requisite Integration works  16.1 New RTU / expand existing RTU  16.2 Nanyuki 132/33 kV Capacitor bank bays  16.1 New RTU / expand existing RTU  16.2 Integration to the Scada Central works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  16.5 New RTU / expand existing RTU  16.1 New RTU / expand existing RTU  16.2 Integration to the Scada Central system  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17. Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand existing RTU  17.2 adaptation works  18.3 Integration to the Scada Central system  19.4 Installation & requisite Integration works  19.5 Integration to the Scada Central system  19.6 Installation & requisite Integration works  19.7 Meru 132/33 kV Capacitor bank bays  19.7 Integration works  19.8 Integration to the Scada Central system  19.8 Installation & requisite Integration  19.8 Integration to the Scada Central system  19.8 Integration to the Scada Central system	13.5		Lot	1			
14.1. Equipment and material for adaptation works  14.2. Integration to the Scada Central system  14.4. Installation & requisite Integration works  15. Kiganjo 132/33 kV Capacitor bank bays  15.1 New RTU / expand exisiting RTU N°. 1  15.2 Equipment and material for adaptation works  15.3 Integration to the Scada Central system  15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  16.5 Integration to the Scada Central system  16.6 Installation & requisite Integration works  17. Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand existing RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  18.4 Installation & requisite Integration Lot 1  19. Integration to the Scada Central system	14	Kindaruma 11/132 kV					
14.2 Equipment and material for adaptation works  14.3 Integration to the Scada Central system  15.1 New RTU / expand exisiting RTU  15.2 Equipment and material for adaptation works  15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU  16.2 Equipment and material for adaptation works  16.1 New RTU / expand exisiting RTU  16.2 Equipment and material for adaptation works  16.1 New RTU / expand exisiting RTU  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  16.5 Ranguaki 132/33 kV Capacitor bank bays  16.6 Installation to the Scada Central system  17.1 Meru 132/33 kV Capacitor bank bays  18.1 Integration to the Scada Central system  19.1 Meru 132/33 kV Capacitor bank bays  19.1 Installation & requisite Integration works  19.1 Installation & requisite Integration works  19.1 Integration to the Scada Central system  19.1 Installation & requisite Integration Lot 1	14.1		N°.	1			
14.3   Integration to the Scada Central system	14.2	Equipment and material for	Lot	1			
14.4 Installation & requisite Integration works  15. Kiganjo 132/33 kV Capacitor bank bays  15.1 New RTU / expand exisiting RTU N°. 1  15.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  16.5 Integration to the Scada Central system  17. Meru 132/33 kV Capacitor bank bays  18. Lot 1  19. Equipment and material for adaptation works  19. Integration to the Scada Central system  19. Meru 132/33 kV Capacitor bank bays  19. Integration to the Scada Central system	14.3	Integration to the Scada Central	Lot	1			
15.1 New RTU / expand exisiting RTU N°. 1  15.2 Equipment and material for adaptation works  15.3 Integration to the Scada Central system  15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Integration to the Scada Central system  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Integration to the Scada Central system  17.6 Integration to the Scada Central system  17.7 Integration to the Scada Central system  17.8 Integration to the Scada Central system  17.9 Integration to the Scada Central system  17.1 Installation & requisite Integration Lot 1  17.4 Installation & requisite Integration Lot 1	14.4	Installation & requisite Integration	Lot	1			
15.1 New RTU / expand exisiting RTU N°. 1  15.2 Equipment and material for adaptation works  15.3 Integration to the Scada Central system  15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Integration to the Scada Central system  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Integration to the Scada Central system  17.6 Integration to the Scada Central system  17.7 Integration to the Scada Central system  17.8 Integration to the Scada Central system  17.9 Integration to the Scada Central system  17.1 Installation & requisite Integration Lot 1  17.4 Installation & requisite Integration Lot 1							
15.2 Equipment and material for adaptation works  15.3 Integration to the Scada Central system  15.4 Installation & requisite Integration works  16 Nanyuki 132/33 kV Capacitor bank bays  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.1 Integration to the Scada Central system  17.2 Integration to the Scada Central system  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.4 Integration to the Scada Central system  17.5 Integration to the Scada Central system  17.6 Installation & requisite Integration Lot 1  17.7 Installation & requisite Integration Lot 1  17.4 Installation & requisite Integration Lot 1  17.5 Installation & requisite Integration Lot 1  17.6 Installation & requisite Integration Lot 1	15						
15.2 adaptation works  15.3 Integration to the Scada Central system  15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  17. Mew RTU / expand exisiting RTU N°. 1  18.4 Equipment and material for adaptation works  19.4 Installation & requisite Integration works  19.5 Meru 132/33 kV Capacitor bank bays  19.6 Meru 132/33 kV Capacitor bank bays  19.7 Equipment and material for adaptation works  19.7 Integration to the Scada Central system  19.7 Integration & requisite Integration  19.7 Installation & requisite Integration	15.1	New RTU / expand exisitng RTU	N°.	1			
15.4 Installation & requisite Integration works  16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17. New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central bays  17.4 Installation & requisite Integration Lot 1  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Integration to the Scada Central system  17.6 Installation & requisite Integration Lot 1  17.7 Installation & requisite Integration Lot 1  17.4 Installation & requisite Integration Lot 1  17.5 Integration & requisite Integration Lot 1  17.6 Installation & requisite Integration Lot 1	15.2		Lot	1			
16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand existing RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central Lot 1  17.4 Installation & requisite Integration Lot 1  17.5 Integration to the Scada Central Lot 1  17.6 Integration to the Scada Central system  17.7 Installation & requisite Integration Lot 1  17.8 Integration to the Scada Central system  17.9 Installation & requisite Integration Lot 1  18.0 Integration & requisite Integration Lot 1  19.1 Installation & requisite Integration Lot 1	15.3		Lot	1			
16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Installation & requisite Integration Lot 1  17.6 Installation & requisite Integration Lot 1	15.4		Lot	1			
16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Installation & requisite Integration Lot 1  17.6 Installation & requisite Integration Lot 1							
16.1 New RTU / expand exisiting RTU N°. 1  16.2 Equipment and material for adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration Lot 1  17.5 Installation & requisite Integration Lot 1  17.6 Installation & requisite Integration Lot 1	16						
16.2 adaptation works  16.3 Integration to the Scada Central system  16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  18 Equipment and material for adaptation works  19 Integration to the Scada Central system  19 Installation & requisite Integration  10 Installation & requisite Integration  10 Installation & requisite Integration  11 Installation & requisite Integration  12 Installation & requisite Integration  13 Installation & requisite Integration  15 Installation & requisite Integration  16 Installation & requisite Integration  17 Installation & requisite Integration  18 Installation & requisite Integration  19 Installation & requisite Integration	16.1	New RTU / expand exisitng RTU	N°.	1		Δ).	
16.4 Installation & requisite Integration works  17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration	16.2		Lot	1			
17 Meru 132/33 kV Capacitor bank bays  17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration	16.3	system	Lot	1			
17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration	16.4		Lot	1			
17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration							
17.1 New RTU / expand exisiting RTU N°. 1  17.2 Equipment and material for adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration	17	· · · · · · · · · · · · · · · · · · ·					
17.2 adaptation works  17.3 Integration to the Scada Central system  17.4 Installation & requisite Integration	17.1	New RTU / expand exisitng RTU	N°.	1			
system Lot 1 Installation & requisite Integration Lot 1	17.2		Lot	1			
	17.3	system	Lot	1			
	17.4		Lot	1			

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<u></u>	Mount Kenya Region			-			
В	Substations / Power						
	Stations Totals						
<u> </u>		_	-		-		
			<del> </del>			<del>                                     </del>	
D	Overseas Training						
	Overseas training 1		6				
1.1	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)	Lot	1				
	Overseas training 2						
1.2	Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot	1				
D	Overseas training Totals						
E	Participation of KPLC personnel in Factory Tests						
1.1	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation)	Lot	1				
E	Participation of KPLC personnel in Factory Tests Totals						
	Telecommuni	cation E	quipme	ent at Sub	ostations		
				Unit	Price		Total Price
Item No.	Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign	Local
			1	2	3	(1) x (2)	(1) x (3)
	Telecommunication Equipment at Substations						
Α.	Nairobi Region Substations						
1	Donholm 11kV SS						
1.1	Uplink Switches for Peer to Peer Connection	No.	2				
1.2	Heavy Duty Substation Switch	No.	1				
1.3	Installation & requisite Integration works	Lot	1	331			

2	Indicate of COMM 121						
	Industrial 66/11 kV						
2.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
2.2	Uplink Switches for Peer to Peer Connection	No.	2				
2.3	Heavy Duty Substation Switch	No.	1				
2.4	Installation & requisite Integration works	Lot	1				
3	Karen 66/11 kV		ļ				
3.1	SDH Multiplexers	No.	1				
3.2	Installation & requisite Integration works	Lot	1				
4	Kikuyu 66/11 kV	<u> </u>					
$\overline{}$		NIE				<u> </u>	
4.1	SDH Multiplexers	No	1		<u> </u>		
4.2	Installation & Integration works	Lot	1				
5	Limuru 66/11 kV						
5.1	SDH Multiplexers	No.	1				
5.2	Installation & requisite Integration	Lot	1				
5.2	works	LOI	<u>'</u>				
6	Machakos 33/11 kV						
6.1	SDH Multiplexers	No.	1				
6.2	Installation & requisite Integration works	Lot	1				
							<u></u>
7	Airport 33/11 kV		t .	1	1	ı	1
						ļ	
7.1	Uplink Switches for Peer to Peer Connection	No.	2				
	Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	No.	2				
7.1	Uplink Switches for Peer to Peer Connection						
7.1 7.2 7.3	Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & requisite Integration works	No.	1				
7.1	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV	No.	1				
7.1 7.2 7.3	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End	No.	1				
7.1 7.2 7.3 8 8.1 8.2	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection	No. Lot Lot No.	1 1 2				
7.1 7.2 7.3 8 8.1	Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	No. Lot	1 1				
7.1 7.2 7.3 8 8.1 8.2	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection	No. Lot Lot No.	1 1 2				
7.1 7.2 7.3 8 8.1 8.2 8.3	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration	No. Lot No. No.	1 1 2 1				
7.1 7.2 7.3 8 8.1 8.2 8.3	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration	No. Lot No. No.	1 1 2 1				
7.1 7.2 7.3 8 8.1 8.2 8.3 8.4	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & requisite Integration works	No. Lot No. No.	1 1 2 1				
7.1 7.2 7.3 8 8.1 8.2 8.3 8.4	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Dandora 220 kV  Installation & testing of OPGW FO to Nairobi North Via Thika Road 220	No. Lot No. No. Lot	1 2 1 1				
7.1 7.2 7.3 8 8.1 8.2 8.3 8.4	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Dandora 220 kV  Installation & testing of OPGW FO to Nairobi North Via Thika	No. Lot No. No. Lot	1 2 1 1				
7.1 7.2 7.3 8 8.1 8.2 8.3 8.4	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Dandora 220 kV  Installation & testing of OPGW FO to Nairobi North Via Thika Road 220	No. Lot No. No. Lot	1 2 1 1				
7.1 7.2 7.3 8 8.1 8.2 8.3 8.4 9 9.1	Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Nyaga 33/11 kV  Installation & testing of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & requisite Integration works  Dandora 220 kV  Installation & testing of OPGW FO to Nairobi North Via Thika Road 220  Cathedral 66/11 kV  Installation and Integration of	No. Lot No. No. Lot	1 2 1 1 2				

11.2	Heavy Duty Substation Switch	No.	1 1	T	T		Ţ
11.3	Installation & requisite Integration	Lot	1	<del>                                     </del>		_	
11.5	works	LOI	<del>  '</del> -	-			
-	T00/44 114	<u> </u>	<del>                                     </del>		<u> </u>	<u> </u>	
12	Tana 66/11 kV						
12.1	Supply of SDH Mux	Lot	1				
12.2	Installation /Integration Materials of SDH Mux	Lot	1				
13	Athi river 220/66 kV		_				
13.1	Supply of SDH Mux	Lot	1		-		
13.2	Installation /Integration Materials	Lot	1	<del>                                     </del>			<u> </u>
	of SDH Mux		<del>  '</del>		<u> </u>	 	
	Nairahi Barian Suhatatiana			ļ			<u> </u>
Α	Nairobi Region Substations / Power Stations Totals					:	
-	Mount Kenya Region						
В	Substations / Power Stations						
			<del>                                     </del>				
1	Embu East SS						
1.1	Uplink Switches for Peer to Peer	No.	2				
1.2	Connection Heavy Duty Substation Switch	No.	1				
1.3	Installation & requisite Integration	Lot	1				
	works		,	-			
2	Embu 33/11 kV						
2.1	Uplink Switches for Peer to Peer	No.	2				
2.2	Connection						
	Heavy Duty Substation Switch Installation & requisite Integration	No.	1				
2.3	works	Lot	1				
		-					
3	Karatina 33/11 kV						
3.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
2.2	Uplink Switches for Peer to Peer						
3.2	Connection	No.	2				
3.3	Heavy Duty Substation Switch Installation & requisite Integration	No.	1				
3.4	works	Lot	1				
4	Kerugoya 33/11 kV						
4.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
4.2	Uplink Switches for Peer to Peer Connection	No.	2			_	
4.3	Heavy Duty Substation Switch	No.	1				-
4.4	Installation & requisite Integration works	Lot	1				
	WUIKS						

5	Kinoru 33/11 kV (Meru 33/11   kV)				
5.1	Uplink Switches for Peer to Peer Connection	No.	2		
5.2	Heavy Duty Substation Switch	No.	1		
5.3	Installation & requisite Integration works	Lot	1		
6	Othaya 33/11 kV				
6.1	Installation & testing of ADSS FO to Peer Link End	Lot	1		
6.2	Uplink Switches for Peer to Peer Connection	No.	2		
6.3	Heavy Duty Substation Switch	No.	1		
6.4	Installation & requisite Integration works	Lot	1		 
			<u> </u>		
7	Kiambere 220/33/11				
7.1	Installation & testing of OPGW FO to Kamburu 220/132 Link End	Lot	1		
7.2	SDH MUX Installation and Integrations	Lot	1		
7.3	Extension Materials at Kamburu 220	Lot	1		
В	Mount Kenya Region Substations / Power Stations Totals			<u> </u>	
С	Test Tools Specifications				
1	Splicing Kit	No.	1		
2	Termination Kit	No.	1		
3	Fault Locator	No.	1		
4	Optical Test Set	No.	1		
5	Rugged Test Laptops	No.	1		
С	Test Tools Specifications				
D	Training - FO Terminal equipment				
	4		-	 	
1.1	week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation	Lot	1		

D	Training Totals					
E	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment					
1.1	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation) for FO terminal Equipment	Lot	1			
1.2	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation) for ADSS FO tests	Lot	1			
Ε	Participation of KPLC personnel in Factory Tests Totals					
F	TOTAL (to Schedule No. 5.					
,	Grand Summary)					
	Name of Bidder					
	Signature of Bidder					
Notes						
	currency in accordance with specifications in	Rid Data Sha	at under l'TI	10 1 in Singl	o Stono Did	
эреспу (	-urrency in accordance with specifications in	DIG Data She	et under 11 L	a ra.i in amgi	e stage Bid	

## Schedule No. 5. Grand Summary

### Schedule 5:Lot 1

Item	Description		Total P	rice <sup>1</sup>		
			Foreign	Local		
	Total Schedule No. 1. Plant, and Mand Parts Supplied from Abroad	latory Spare				
	Total Schedule No. 2. Plant, and Mand Parts Supplied from Within the Employ					
	Total Schedule No. 3. Design Services			as ann manwarer enns sillerliger refor viter odje o 400 hej viterb þýr hejja viter hýsk vejá hilja hejfa.		
man manasan manake sekebeb	Total Schedule No. 4. Installation and	Other Services	er amanimuluskiskistuskisky sukre-sike (skiepe sii pitel a. Q-sylepe, at all.) ama propagajanja k	na manamana nana manamar akkarara rapi saba diba-dira di-dira-dira-say -dira-B API di		
		TOTAL	(to Bid Form)			
		Name of Bidder				
		Signature ofBidder				

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid, Create and use as many columns for Foreign Currency requirement as there are foreign currencies

## Schedule No. 6. Recommended Spare Parts

ltem	Description	Qty.	Unit I	Total Price	
			CIF or CIP	EXW	1
ŀ			(foreign parts)	(local parts)	
		(1)	(2)	(3)	$(1) \times (2) \text{ or } (3)$
			·-	_	
			R. A. Article (A. All and the Article Article Annual Article Annual Annu	No 1-10 - 10 - 10 - 10 - 10 - 10 - 10 -	** ***********************************
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			g sa man ngin nga ngin apinapa agin aja ada ada digitigan iyo add adaradis sida sidassor sida sa sarasso s A		I have not sign have equal for due from the side of white order of enter some flow revenils not not to be a first order.
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			Name of Bidder		
		e:	nature of Bidder		
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## **Schedules of Rates and Prices Lot 2**

# Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad

Lot 2: Schedule No.1

Plant a	nd Mandatory Spare Parts Supplied fro	m Abroad				
	SCADA EQUIPM	ENT AT SUI	BSTATIONS			
Item No.	Description	Code <sup>1</sup>	Unit	Qty	Unit Price (DDP to site inclusive of all Taxes, duties, levies) &Inclusiv e of VAT	Total Price
				1	2	(1x2)
_	SCADA Equipment at Substations					
A	Coastal Region Substations / Power Stations					
1	Msambweni 33/11 kV					
1.1	New Remote Terminal Unit (RTU)		N°.	1		
1.2	Equipment and material for adaptation works		Lot	1		
1.3	48 V-DC Power Supply		Set	1		•
1.4	Integration to the Scada Central system		Lot	1		-
1.5	Installation & requisite Integration works		Lot	1		
2	Mwabungo 33/11 kV					
2.1	New Remote Terminal Unit (RTU)		N°.	1		
2.2	Equipment and material for adaptation works		Lot	1		
2.3	48 V-DC Power Supply		Set	1		
2.4	Integration to the Scada Central system		Lot	1		
2.5	Installation & requisite Integration works		Lot	1		
3	Kanamai 33/11 kV					
3.1	New Remote Terminal Unit (RTU)		N°.	1		
3.2	Equipment and material for adaptation works		Lot	1		
3.3	48 V-DC Power Supply		Set	1		
3.4	Integration to the Scada Central system		Lot	1		

	<u> </u>	1 T	<del></del>	- <sub>T</sub>	
3.5	Installation & requisite Integration works	Lot	1	-	
				ļ	
4	Watamu 33/11 kV				
4.1	New Remote Terminal Unit (RTU)	N°.	1		
4.2	Equipment and material for adaptation works	Lot	1		
4.3	48 V-DC Power Supply	Set	1		
4.4	Integration to the Scada Central system	Lot	1		
4.5	Installation & requisite Integration works	Lot	1		
5	Mariakani 33/11 kV				
5.1	New Remote Terminal Unit (RTU)	N°.	1		
5.2	Equipment and material for adaptation works	Lot	1		
5.3	48 V-DC Power Supply	Set	1		
5.4	Integration to the Scada Central system	Lot	1		
5.5	Installation & requisite Integration works	Lot	1		
6	Utange 33/11 kV				
6.1	New Remote Terminal Unit (RTU)	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1		
6.4	Integration to the Scada Central system	Lot	1		
6.5	Installation & requisite Integration works	Lot	1		
7	Kilifi 33/11 kV				
7.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
7.2	Equipment and material for adaptation	Lot	1	<u> </u>	
7.3	works 48 V-DC Power Supply	Set	1		
7.4	Integration to the Scada Central system	Lot	1		<u> </u>
7.5	Installation & requisite Integration works	Lot	1		<u>.</u>
761			<u>'</u>		
8	Kikambala 33/11 kV				
8.1	New Remote Terminal Unit (RTU)	N°.	1		
8.2	Equipment and material for adaptation	Lot	1		
8.3	works 48 V-DC Power Supply				
		Set	1		
8.4	Integration to the Scada Central system	Lot	1		
7.5	Installation & requisite Integration works	Lot	1		

9	Voi 132/33 kV				
9.1	Existing/New Remote Terminal Unit	N°.	1		
	(RTU) Equipment and material for adaptation	Lot	1	<u></u>	
9.2	works		1		
9.3	48 V-DC Power Supply	Set	<del></del>		
9.4	Integration to the Scada Central system	Lot	1		
7.5	Installation & requisite Integration works	Lot	1		
				<u> </u>	
10	Mombasa Cement 33/11 kV				
10.1	New Remote Terminal Unit (RTU)  Equipment and material for adaptation	N°.	1	ļ	
10.2	works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		
10.4	Integration to the Scada Central system	Lot	1		
10.5	Installation & requisite Integration works	Lot	1		
11	Rabai Reactor bays				
11.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
11.2	Equipment and material for adaptation works	Lot	1		
11.3	Integration to the Scada Central system	Lot	1		
11.4	Installation & requisite Integration works	Lot	1		
12	Mtito Andei Reactor bays				
12.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
12.2	Equipment and material for adaptation works	Lot	1		
12.3	Integration to the Scada Central system	Lot	1		
12.4	Installation & requisite Integration works	Lot	1		
13	Kiboko Reactor bays				
13.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
13.2	Equipment and material for adaptation works	Lot	1		
13.3	Integration to the Scada Central system	Lot	1_		
13.4	Installation & requisite Integration works	Lot	1		
14	New Bamburi Reactor bays				
14.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
14.2	Equipment and material for adaptation works	Lot	1		

142	Integration to the Seeds Contact					1
14.3	Integration to the Scada Central system	-	Lot	1		
14.4	Installation & requisite Integration works	ļ	Lot	1		
15	Malindi 33/11 kV					
15.1	Existing/New Remote Terminal Unit (RTU)		N°.	1		
15.2	Equipment and material for adaptation works		Lot	1		
15.3	48 V-DC Power Supply		Set	1		
15.4	Integration to the Scada Central system		Lot	1		
15.5	Installation & requisite Integration works		Lot	1		
Α	Coastal Region Substations / Power Stations Totals					
В	Mandatory spare parts RTU's and substation works					
	remarks:					
	Tenderer shall provide a list of recommended spare parts for long-term operation					
1.1	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools		No.	1		
1.2	Interface Testing Equipment for all digital and analogue I/O-signals		No.	1		
	Interface Testing Equipment for Communication from/to SCADA/EMS- System incl. Software		No.	1		
1.3	Equipment for adaptation works	,	set	1		
1.4	48 V DC Supply equipment		set	1		
1.5	Ferrule Marking Machine		set	2		
	Telecommu	nication	Equipm	ent at S	ubstations	
of the Vice					Unit Price	
ltem No.	Description	Code <sup>1</sup>	Unit	Qty ·	(DDP to site inclusive of all Taxes, duties, levies) &Inclusive of VAT	Total Price
				-1	-2	(1x2)
		-			-2	(1/4/

А	Coastal Region Substations / Power Stations				
1	Msambweni 33/11 kV				
1.1	Installation & testing of ADSS FO to Peer Link End	Lot	11		
1.2	Uplink Switches for Peer to Peer Connection	No.	2		
1.3	Heavy Duty Substation Switch	No	1		
1.4	Installation & requisite Integration works	Lot	1		
				<u></u>	
2	Mwabungo 33/11 kV				
2.1	Installation & testing of ADSS FO to Peer Link End	Lot	1		
2.2	Uplink Switches for Peer to Peer Connection	No.	2		
2.3	Heavy Duty Substation Switch	No.	1		
2.4	Installation & requisite Integration works	Lot	1		
3	New Bamburi 132kV SS				
3.1	SDH Multiplexers	No.	1		
3.2	Installation & requisite Integration works	Lot	1		
4	Kanamai 33/11 kV				
4.1	Uplink Switches for Peer to Peer Connection	No.	2		
4.2	Heavy Duty Substation Switch	No.	1		
4.3	Installation & requisite Integration works	Lot	1		
5	Watamu 33/11 kV				
5.1	Installation & testing of ADSS FO to Peer Link End	Lot	1		
5.2	Uplink Switches for Peer to Peer Connection	No.	2		
5.3	Heavy Duty Substation Switch	No.	1		
5.4	Installation & requisite Integration works	Lot	1		
			<u> </u>		
6	Mariakani 33/11 kV				
6.1	Installation & testing of ADSS FO to Peer Link End	Lot	1		
6.2	Uplink Switches for Peer to Peer Connection	No.	2		
6.3	Heavy Duty Substation Switch	No.	1		
6.4	Installation & requisite Integration works	Lot	1		
			<u> </u>	<del> </del>	
7	Malindi 33/11 kV				<u> </u>

						_
7.1	Installation & requisite Integration works		Lot	1		
8	Utange 33/11 kV					
8.1	Uplink Switches for Peer to Peer Connection		No.	2	<del> </del>	
8.2	Heavy Duty Substation Switch		No.	1		
8.3	Installation & requisite Integration works		Lot	1		<u> </u>
9	Shanzu 33/11 kV					
9.1	Uplink Switches for Peer to Peer Connection		No.	2		
9.2	Heavy Duty Substation Switch		No.	1		
9.3	Installation & requisite Integration works		Lot	1		
10	Kikambala 33/11 kV					
10.1	Uplink Switches for Peer to Peer Connection		No.	2		
10.2	Heavy Duty Substation Switch		No.	1		
10.3	Installation & requisite Integration works		Lot	1		
					<del>                                     </del>	
11	Mombasa Cement 33/11 kV				ļ	
11.1	Installation & testing of ADSS FO to Peer Link End		Lot	1		
11.2	Uplink Switches for Peer to Peer Connection		No.	2		
11.3	Heavy Duty Substation Switch		No.	1		
11.4	Installation & requisite Integration works		Lot	1		
Α	Coastal Region Substations / Power Stations Totals					
В	Mandatory spare parts Telcoms and Integration works					
1	ADSS FO Cable (10%)		KMS	16		
2	Multiplexers		No.	1		
3	Uplink Switches		No.	2	-	<u> </u>
4	Station Switches		No.	1		
5	ODFs		No.	2		
6	FC – LC Patch Cords		No.	4		
7	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)		No.	4		
В	Mandatory spare parts Telcoms and Integration works					
С	Test Tools Specifications					
1	Splicing Kit		No.	1		
2	Termination Kit	8 of 107	No.	1		

3	Fault Locator	No.	1	
4	Optical Test Set	No.	1	
5	Rugged Test Laptops	No.	1	
С	Test Tools Specifications			
D	TOTAL (to Schedule No. 5. Grand Summary)			
	Name of Bidder			
	Signature of Bidder			 

#### <u>Notes</u>

<sup>&</sup>lt;sup>1</sup> Bidders shall enter a code representing the country of origin of all imported plant and equipment,

<sup>&</sup>lt;sup>2</sup> Specify currency. Create and use as many columns for Unit Price and Total Price as there are currencies.

## Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

#### Lot 2: Schedule 2: Plant and Mandatory Spare Parts Supplied from Local SCADA EQUIPMENT AT SUBSTATIONS Unit Total Price Price Item **Description** Unit Qty (EXW) No. 2 (1x2)**SCADA Equipment at Substations** Α Coastal Region Substations / Power Stations Msambweni 33/11 kV 1 1.1 New Remote Terminal Unit (RTU) N°. 1.2 Equipment and material for adaptation works Lot 1 1.3 48 V-DC Power Supply Set 2 Mwabungo 33/11 kV 2.1 New Remote Terminal Unit (RTU) N°. 1 2.2 Equipment and material for adaptation works Lot 1 2.3 48 V-DC Power Supply Set 1 3 Kanamai 33/11 kV 3.1 New Remote Terminal Unit (RTU) N°. 1 3.2 Equipment and material for adaptation works Lot 1 3.3 48 V-DC Power Supply Set 1 Watamu 33/11 kV 4.1 New Remote Terminal Unit (RTU) N°. 4.2 Equipment and material for adaptation works Lot 1 4.3 48 V-DC Power Supply Set Mariakani 33/11 kV 5.1 New Remote Terminal Unit (RTU) N°. 1 5.2 Equipment and material for adaptation works Lot 1 5.3 48 V-DC Power Supply Set 1

			<u> </u>	Γ	
6	Utange 33/11 kV		<u> </u>		
6.1	New Remote Terminal Unit (RTU)	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1	<u> </u>	
0.3	46 V-DC Fower Supply		<u>'</u>		
7	Kikambala 33/11 kV	14			
7.1	New Remote Terminal Unit (RTU)	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Set	1		
8	Kilifi 33/11 kV				
8.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
8.3	48 V-DC Power Supply	Set	1		
9	Voi 132/33 kV				
9.1	Existing/New Remote Terminal Unit (RTU)	N°,	1		
9.2	Equipment and material for adaptation works	Lot	1		
9.3	48 V-DC Power Supply	Set	1		
10	Mombasa Cement 132/33 kV				
10.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
10.2	Equipment and material for adaptation works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		
11	Rabai Reactor bays				
11.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
11.2	Equipment and material for adaptation works	Lot	1		
12	Mtito Andei Reactor bays				
12.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
12.2	Equipment and material for adaptation works	Lot	1		
			_		
13	Kiboko Reactor bays				-
13.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		-
13.2	Equipment and material for adaptation works	Lot	1		<u> </u>

	<u> </u>	Т	T		Т
<u> </u>			-		
14	New Bamburi Reactor bays	-			
14.1	Existing/New Remote Terminal Unit (RTU)	N°.	1	ļ	ļ
14.2	Equipment and material for adaptation works	Lot	1		<u> </u>
15	Malindi 33/11 kV				
15.1	Existing/New Remote Terminal Unit (RTU)	N°.	1		
15.2	Equipment and material for adaptation works	Lot	1		
15.3	48 V-DC Power Supply	Set	1		
A	Coastal Region Substations / Power Stations Totals				
В	Mandatory spare parts RTU's and substation works				
	remarks:				
	Tenderer shall provide a list of recommended spare parts for long-term operation				
				1	<u> </u>
1.1	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1		
1.2	Interface Testing Equipment for all digital and analogue I/O-signals	No.	1		
1.3	Interface Testing Equipment for Communication from/to SCADA/EMS-System incl. Software	No.	1		
1.4	Equipment for adaptation works	set	1		
1.5	48 V DC Supply equipment	set	1		
1.6	Ferrule Marking Machine	set	2		
В	Mandatory spare parts RTU's and substation works Totals				
	Telecommunication Equipmen	t at Sub	station	S	
Item No.	Description	Unit	Qty	Unit Price (EXW)	Total Price
			-1	-2	(1x2)

A	Coastal Region Substations / Power Stations				
1	Msambweni 33/11 kV				1
1.1	Supply of ADSS FO to Peer Link End	Lot	1		
1.2	Uplink Switches for Peer to Peer Connection	No.	2		
1.3	Heavy Duty Substation Switch	No.	1		
					_
2	Mwabungo 33/11 kV			-	
2.1	Supply of ADSS FO to Peer Link End	Lot	1		
2.2	Uplink Switches for Peer to Peer Connection	No.	2		
2.3	Heavy Duty Substation Switch	No.	1		
3	New Bamburi 132kV SS				
3.1	SDH Multiplexers	No.	1		
					ļ
4	Kanamai 33/11 kV				
4.1	Uplink Switches for Peer to Peer Connection	No.	2		
4.2	Heavy Duty Substation Switch	No.	1		
5	Watamu 33/11 kV				
5.1	Supply of ADSS FO to Peer Link End	Lot	1		
5.2	Uplink Switches for Peer to Peer Connection	No.	2		
5.3	Heavy Duty Substation Switch	No.	1		
	455555				
6	Mariakani 33/11 kV				
6.1	Supply of ADSS FO to Peer Link End	Lot	1		
6.2	Uplink Switches for Peer to Peer Connection	No:	2		
6.3	Heavy Duty Substation Switch	No.	1		
	90				
7	Utange 33/11 kV				
7.1	Uplink Switches for Peer to Peer Connection	No.	2		
7.2	Heavy Duty Substation Switch	No.	1 🚉		
7.3	Installation & requisite Integration Materials	Lot	1		
8	Shanzu 33/11 kV				
8.1	Uplink Switches for Peer to Peer Connection	No.	2		

8.2	Heavy Duty Substation Switch	No.	1	<u> </u>	1
8.3					<u>.</u>
8.5	Installation & requisite Integration Materials	Lot	1		
9	Kilifi 33/11 kV				
9.1	Uplink Switches for Peer to Peer Connection	No.	2		
9.2	Heavy Duty Substation Switch	No.	1		!
9.3	Installation & requisite Integration Materials	Lot	1		
A	Coastal Region Substations / Power Stations Totals				
В	Mandatory spare parts Telcoms and Integration works				:
1	ADSS FO Cable (10%)	KMS	16		
2	Multiplexers	No.	2		
3	Uplink Switches	No.	2		
4	Station Switches	No.	1		
5	ODFs	No.	2		
6	FC – LC Patch Cords	No.	4		
7	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4		:
В	Mandatory spare parts Telcoms and Integration works Totals				
С	Test Tools Specifications				
1	Splicing Kit	No.	1		
2	Termination Kit	No.	1		
3	Fault Locator	No.	1		
4	Optical Test Set	No.	1		
5	Rugged Test Laptops	No.	1		
С	Test Tools Specifications Totals				
D	TOTAL (to Schedule No. 5. Grand Summary)				
	NCD:11	•			
	Name of Bidder				
	Signature of Bidder				
	Signature of bidder		-		

Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid

## Schedule No. 3. Design Services

#### Lot 2: Schedule 3: Design Services

				Unit	Price	Total Price		
Item No.	Description	Unit	Qty	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	
			-1	-2	-3	(1x2)	(1x3)	
	SCADA & Telcom Equipment Designs							
A	Coastal Region Substations / Power Stations							
100	Msambweni 33/11 kV					_		
101	Substation Adaptation /Engineering Designs	Lot	1					
102	Data Engineering	Lot	1					
103	Telecommunication Design & Integration	Lot	1					
200	Mwabungo 33/11 kV							
201	Substation Adaptation /Engineering Designs	Lot	1					
202	Data Engineering	Lot	1					
203	Telecommunication Design & Integration	Lot	1					
300	Kanamai 33/11 kV							
301	Substation Adaptation /Engineering Designs	Lot	1					
302	Data Engineering	Lot	1					
303	Telecommunication Design & Integration	Lot	1_					
400	Watamu 33/11 kV			-				
401	Substation Adaptation /Engineering Designs	Lot	1					
402	Data Engineering	Lot	1					

		.,	,				
403	Telecommunication Design & Integration	Lot	1		-		
500	Mariakani 33/11 kV	ļ					<u> </u>
501	Substation Adaptation /Engineering Designs	Lot	1				
502	Data Engineering	Lot	1		ļ		ļ
503	Telecommunication Design & Integration	Lot	1				
		-	ļ .				
600	Utange 33/11 kV	<u> </u>					
601	Substation Adaptation /Engineering Designs	Lot	1				
602	Data Engineering	Lot	1				
603	Telecommunication Design & Integration	Lot	1				
700	Kilifii 33/11 kV						
701	Substation Adaptation /Engineering Designs	Lot	1				
702	Data Engineering	Lot	1				
703	Telecommunication Design & Integration	Lot	1				
800	Kikambala 33/11 kV						
801	Substation Adaptation /Engineering Designs	Lot	1				
802	Data Engineering	Lot	1				
803	Telecommunication Design & Integration	Lot	1				
900	New Bamburi 132kV SS						
901	Substation Adaptation /Engineering Designs	Lot	1		-		
902	Data Engineering	Lot	1				
903	Telecommunication Design & Integration	Lot	1				
1000	Malindi 33/11 kV						
1001	Telecommunication Design & Integration	No.	2				
1002	Substation Adaptation /Engineering Designs	Lot	1			-	
1003	Data Engineering	Lot	1				
1100	Shanzu 33/11 kV						
1101	Telecommunication Design & Integration	Lot	1	-			-
1200	Voi 132/33 kV						
1201	Substation Adaptation /Engineering Designs	Lot	1				
	,				<u> </u>		

1202	Data Engineering	Lot	1			
1203	Telecommunication Design & Integration	Lot	1			
1300	Mombasa cement kV					
1301	Substation Adaptation /Engineering Designs	Lot	1			
1302	Data Engineering	Lot	1	 		
13.3	Telecommunication Design & Integration	Lot	1	 		
1400	Rabai 220/132/33 kV reactors				<u> </u>	
1401	Substation Adaptation /Engineering Designs	Lot	1			
1402	Data Engineering	Lot	1			
1500	Mtito 132/33 kV reactors					_
1501	Substation Adaptation /Engineering Designs	Lot	1			
1502	Data Engineering	Lot	1			
1600	Kiboko 132/33 kV reactors					
1601	Substation Adaptation /Engineering Designs	Lot	1			
1602	Data Engineering	Lot	1			
А	Coastal Region Substations / Power Stations Totals					
В	TOTAL (to Schedule No. 5. Grand Summary)					
	Name of Bidder					
	Signature of Bidder					

#### <u>Notes</u>

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid.

## Schedule No. 4. Installations and Other Services

Lot 2	: Installations and Other Services						
	SCADA EQUIPMEN	T AT SUE	STATI	ONS			W.L.
- 0				Unit	Unit Price		Price
Item No.	Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currency Portion
			1	2	3	(1) x (2)	(1) x (3)
	SCADA Equipment at Substations						
А	Coastal Region Substations / Power Stations						
1	Msambweni 33/11 kV						
1.1	Integration to the Scada Central system	Lot	1				
1.2	Installation & requisite Integration works	Lot	1				
2	Mwabungo 33/11 kV	-		-			
2.1		1	4				
2.1	Integration to the Scada Central system	Lot	1				
	Installation & requisite Integration works	Lot	1			-	
3	Kanamai 33/11 kV						
3.1	Integration to the Scada Central system	Lot	1				
3.2	Installation & requisite Integration works	Lot	1				
4	Watamu 33/11 kV						
4.1	Integration to the Scada Central system	Lot	1				
4.2	Installation & requisite Integration works	Lot	1	-			
712	mistaliation a requisite integration works	201	-				
5	Mariakani 33/11 kV						
5.1	Integration to the Scada Central system	Lot	1				
5.2	Installation & requisite Integration works	Lot	1				
		-					
6	Utange 33/11 kV						
5.1	Integration to the Scada Central system	Lot	1				
5.2	Installation & requisite Integration works	Lot	1				

		т		1	Τ	T	
7	Kilifi 33/11 kV	ļ		<u> </u>			
7.1	Integration to the Scada Central system	Lot	1			_	
7.2	Installation & requisite Integration works	Lot	1				
8	Kikambala 33/11 kV						
8.1	Integration to the Scada Central system	Nº.	1				
8.2	Installation & requisite Integration works	Lot	1				
9	Voi 132/ 33 kV						
9.1	Integration to the Scada Central system	N°.	1				
9.2	Installation & requisite Integration works	Lot	1				
10	Mombasa cement						
10.1	Integration to the Scada Central system	N°.	1		<u> </u>		
10.2	Installation & requisite Integration works	Lot	1				
11	New Bamburi reactors						
11.1	Integration to the Scada Central system	N°.	1				
11.2	Installation & requisite Integration works	Lot	1				
				·			
12	Rabai 220/132/33 kV reactors						
12.1	Integration to the Scada Central system	N°.	1				
12.2	Installation & requisite Integration works	Lot	1				
13	Mtito 132/33 kV reactors						
13.1	Integration to the Scada Central system	N°.	1				
13.2	Installation & requisite Integration works	Lot	1				
14	Kiboko 132/33 kV reactors						
14.1	Integration to the Scada Central system	N°.	1				
14.2	Installation & requisite Integration works	Lot	1				
		1					
A	Coastal Region Substations / Power Stations Totals						
С	Overseas Training						
	Page 40 of 1						

	Overseas training 1						
1.1	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)	Lot					
			<u> </u>			<u> </u>	
j)	Overseas training 2						
1.2	Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
С	Overseas training Totals		:				
D	Participation of KPLC personnel in Factory Tests						
1.1	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation)	Lot					
		-	_				
D	Participation of KPLC personnel in Factory Tests Totals						
	Telecommunication	n Equ	iipm	ent at Su	bstation	S	
				Unit	Price	Total	Price
Item No.	Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currency Portion
			-1	-2	-3	(1) x (2)	(1) x (3)
A	Coastal Region Substations / Power Stations						
1	Msambweni 33/11 kV						
1.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
1.2	Installation & requisite Integration works	Lot	1				
2	Mwabungo 33/11 kV						
2.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
2.2	Installation & requisite Integration works	Lot	1				

-	New Bamburi 132kV SS						
3		1					
3.1	Installation & requisite Integration works	Lot	1				
4	Kanamai 33/11 kV						
4.1	Installation & requisite Integration works	Lot	1				
5	Watamu 33/11 kV						
5.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
5.2	Installation & requisite Integration works	Lot	1				
6	Mariakani 33/11 kV						
6.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
6.2	Installation & requisite Integration works	Lot	1				~
7	Malindi 33/11 kV						
7.1	Installation & requisite Integration works	Lot	1				
8	Utange 33/11 kV					-	
8.1	Installation & requisite Integration works	Lot	1				
9	Shanzu 33/11 kV		_				
9.1	Installation & requisite Integration works	Lot	1				
_						7.5	
10	Kikambala 33/11 kV						
10.1	Installation & requisite Integration works	Lot	1				
11	Voi 132/33						
11.1	Installation & requisite Integration works	Lot	1				
<u> </u>							
12	Mombasa cement	-					
12.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
12.2	Installation & requisite Integration works	Lot	1		_		
	merenorior a redenore integration motivo						
A	Coastal Region Substations / Power Stations Totals						
	Stations rotals						
		<u> </u>		<u></u>			

		1	Т	т	1		т——
В	Overseas Training						
		-	<del>                                     </del>				
	Overseas training 1						
1.1	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)	Lot					
	Overseas training 2						:
1.2	Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
В	Overseas training Totals						
С	Participation of KPLC personnel in Factory Tests						
1.1	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation)	Lot					
С	Participation of KPLC personnel in Factory Tests Totals						
D	TOTAL (to Schedule No. 5. Grand Summary)						
	Name of Bidder						
	Signature of Bidder					-	

#### **Notes**

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid

## Schedule No. 5. Grand Summary

#### Schedule 5:Lot 2

ltem	Description		Total Pi	rice <sup>1</sup>
_	-		Foreign	Local
	Total Schedule No. 1. Plant, and Mandat Parts Supplied from Abroad	ory Spare	1 man 1 m m m m m m m m m m m m m m m m m m	
	Total Schedule No. 2. Plant, and Mandat Parts Supplied from Within the Employer			
	Total Schedule No. 3. Design Services			
	Total Schedule No. 4. Installation and O	ther Services		na mana mana mana mana mana mana mahina ma mana nishi -shirandi 143 sishi -shirandi
		TOTAL (	to Bid Form)	
		Name of Bidde	r	

Name of Bidder	
Signature of Bidder	

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid, Create and use as many columns for Foreign Currency requirement as there are foreign currencies

## Schedule No. 6. Recommended Spare Parts

ltem	Description	Qty.	Unit I	rice	Total Price
		(1)	CIF or CIP (foreign parts)	EXW (local parts)	(1) x (2) or(3)
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			Name of Bidder		
		Sig	nature of Bidder		·

## **Schedules of Rates and Prices Lot 3**

## Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad

Lot 3: Schedule 1

rialit dilC	I Mandatory Spare Parts Supplied from Abo					
	SCADA EQUIPMENT	AT SUBSTATI	ONS			
Item No.	Description	Code <sup>1</sup>	Unit	Qty	Unit Price (CIP to include clearing and forwarding charges to final destination)	Tota Price
				-1	-2	(1x2)
	SCADA Equipment at Substations					
А	Western Region Substations / Power Stations					
1	Kisumu East 33/11 kV	_				
1.1	New Remote Terminal Unit (RTU)		N°.	1		
1.2	Equipment and material for adaptation works		Lot	1		
1.3	48 V-DC Power Supply		Set	1		
2	Kakamega 33/11 kV					
2.1	New Remote Terminal Unit (RTU)		N°.	1		
2.2	Equipment and material for adaptation works		Lot	1		
2.3	48 V-DC Power Supply		Set	1		
3	Kericho. 33/11 kV					
3.1	New Remote Terminal Unit (RTU)		N°.	1		
3.2	Equipment and material for adaptation works		Lot	1		
3.3	48 V-DC Power Supply		Set	1		
4	Ikonge 33/11 kV					
4.1	New Remote Terminal Unit (RTU)		N°.	1		
4.2	Equipment and material for adaptation works		Lot	1		

	T	T -		T	1
4.3	48 V-DC Power Supply	Set	1		
			-		-
5	Kisii 33/11 kV		-		-
5.1	New Remote Terminal Unit (RTU)	N°.	1		
5.2	Equipment and material for adaptation works	Lot	1		ļ
5.3	48 V-DC Power Supply	Set	1		
			ļ		
6	Mogogosiek 33/11 kV				
6.1	New Remote Terminal Unit (RTU)	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1		ļ
			ļ		<u> </u>
7	Obote Rd 33/11 kV				
7.1	New Remote Terminal Unit (RTU)	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Set	1		
8	Olkalau 33/11 kV				
8.1	New Remote Terminal Unit (RTU)	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
8.3	48 V-DC Power Supply	Set	1		
				· · · · · · · · · · · · · · · · · · ·	
9	Cheptulu 33/11 kV				
9.1	New Remote Terminal Unit (RTU)	N°.	1		
9.2	Equipment and material for adaptation works	Lot	1		
9.3	48 V-DC Power Supply	Set	1		
10	Elburgon 33/11 kV				
10.1	New Remote Terminal Unit (RTU)	N°.	1		
10.2	Equipment and material for adaptation works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		
•					
11	Matundura 33/11 kV				
11.1	New Remote Terminal Unit (RTU)	N°.	1		
11.2	Equipment and material for adaptation works	Lot	1		
11.3	48 V-DC Power Supply	Set	1		
12	Marula 33/11 kV				

12.1	New Remote Terminal Unit (RTU)	N°.	1		
12.2	Equipment and material for adaptation works	Lot	1		
12.3	48 V-DC Power Supply	Set	1,		
13	Kihoto 33/11 kV				
13.1	New Remote Terminal Unit (RTU)	N°.	1		
13.2	Equipment and material for adaptation works	Lot	1		
13.3	48 V-DC Power Supply	Set	1		_
14	Soilo 132/11 kV				
14.1	Existing/ New Remote Terminal Unit (RTU)	N°.	1		
14.2	Equipment and material for adaptation works	Lot	1	·	
15	Nakuru Depot 33/11 kV				
15.1	New Remote Terminal Unit (RTU)	N°.	1		
15.2	Equipment and material for adaptation works	Lot	1		
15.3	48 V-DC Power Supply	Set	1		
16	Njoro 33/11 kV				
16.1	New Remote Terminal Unit (RTU)	N°.	1		
16.2	Equipment and material for adaptation works	Lot	1		
16.3	48 V-DC Power Supply	Set	1		
17	Nyahururu 33/11 kV				
17.1	New Remote Terminal Unit (RTU)	N°.	1		
17.2	Equipment and material for adaptation works	Lot	1		
17.3	48 V-DC Power Supply	Set	1		
18	Rongai 33/11 kV				
18.1	New Remote Terminal Unit (RTU)	N°.	1		
18.2	Equipment and material for adaptation works	Lot	1		
18.3	48 V-DC Power Supply	Set	1		
19	Mwariki 33/11 kV				
19.1	New Remote Terminal Unit (RTU)	N°.	1		
19.2	Equipment and material for adaptation works	Lot	1		
19.3	48 V-DC Power Supply	Set	1		
			1 1	_	

20	Eldoret Depot 33/11 kV				
20.1	New Remote Terminal Unit (RTU)	N°.	1		
20.2	Equipment and material for adaptation works	Lot	1		
20.3	48 V-DC Power Supply	Set	1		
21			-		
21	Eldoret Industrial 33/11 kV		+		-
21.2	New Remote Terminal Unit (RTU)	N°.	1, 1	-	
21.3	Equipment and material for adaptation works	Lot	1		
21.4	48 V-DC Power Supply	Set	1	ļ	_
22	Kitale 33/11 kV				
22.1	New Remote Terminal Unit (RTU)	N°.	1		
22.2	Equipment and material for adaptation works	Lot	1		-
22.3	48 V-DC Power Supply	Set	1		
23	Kapsabet 33/11 kV		ļ		
23.1	New Remote Terminal Unit (RTU)	N°.	1		
23.2	Equipment and material for adaptation works	Lot	1		
23.3	48 V-DC Power Supply	Set	1		
24	Turkwel 11/220kV		-		-
24.1	extension / re-use exisitng RTU	N°.	1		+
24.2	Equipment and material for adaptation works	Lot	1		
25	Homa bay 33/11 kV				
25.1	New Remote Terminal Unit (RTU)	N°.	1		
25.2 	Equipment and material for adaptation works	N°.	1		
25.3	48 V-DC Power Supply	Lot	1		-
26	Muhoroni 33/11kV				-
26.1	New Remote Terminal Unit (RTU)	N°.	1		+
26.2	Equipment and material for adaptation works	Lot	1		
	48 V-DC Power Supply	Lot	1		
26.3					1
26.3					
26.3	Orpower 11/220 kV				-
	Orpower 11/220 kV  extension / re-use exisitng RTU	N°.	1		

28	Keroka 33/11 kV				
28.1	New Remote Terminal Unit (RTU)	N°.	1	-	
28.2	Equipment and material for adaptation works	Lot	1		
28.3	48 V-DC Power Supply	Set	1		
29	Migori 33/11 kV				
29.1	New Remote Terminal Unit (RTU)	N°.	1		
29.2	Equipment and material for adaptation works	Lot	1		
29.3	48 V-DC Power Supply	Set	1		
30	Webuye 132/33 kV				
30.1	New Remote Terminal Unit (RTU)	N°.	1		
30.2	Equipment and material for adaptation works	Lot	1		
30.3	48 V-DC Power Supply	Set	1		
31	Chemosit 132/33 kV Capacitor bank bays				
31.1	extension / re-use exisitng RTU	N°.	1		
31.2	Equipment and material for adaptation works	Lot	1		
					ļ
32	Kisumu 132/33 kV capacitor bank bays				
32.1	extension / re-use exisitng RTU	N°.	1		
32.2	Equipment and material for adaptation works	Lot	1		
33	Kegati 132/33 kV Capacitor bank bays				
33.1	extension / re-use exisitng RTU	N°.	1		
33.2	Equipment and material for adaptation works	Lot	1		
34	Eldoret 132/33 kV Capacitor bank bays				
34.1	extension / re-use exisitng RTU	N°.	1		
34.2	Equipment and material for adaptation works	Lot	1		
35	Lanet 132/33 kV Capacitor bank bays				
35.1	extension / re-use exisitng RTU	N°.	1		ļ
35.2	Equipment and material for adaptation works	N°.	1		
36	Musaga 132/33 kV Capacitor bank bays				
36.1	extension / re-use exisitng RTU	N°.	1		
36.2	Equipment and material for adaptation works	Lot	1		

37	Mai mahiu 33/11 kV					
37.1	New Remote Terminal Unit (RTU)		N°.	1		
37.2	Equipment and material for adaptation works		Lot	1		1
37.3	48 V-DC Power Supply		Set	1		-
	100	+		<del> </del>		
A	Western Region Substations / Power Stations Totals					
В	Mandatory spare parts RTU's and substation works					
	remarks:					
	Tenderer shall provide a list of recommended spare parts for long-term operation					
1.1	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools		No.	1		
1.2	Interface Testing Equipment for all digital and analogue I/O-signals		No.	1		
1.3	Interface Testing Equipment for Communication from/to SCADA/EMS-System incl. Software		No.	1		
1.4	Equipment for adaptation works		set	1		
1.5	48 V DC Supply equipment		set	1		
			1			
1.6	Ferrule Marking Machine		set	2		
1.6 B	Mandatory spare parts RTU's and substation works Totals		set	2		
	Mandatory spare parts RTU's and	pment at				
	Mandatory spare parts RTU's and substation works Totals	pment at			Unit Price (CIP to include clearing and forwarding charges to final destination)	Tota Price
В	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi		Substati	ons	(CIP to include clearing and forwarding charges to final	1
В	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi		Substati	Qty	(CIP to include clearing and forwarding charges to final destination)	Price
В	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi  Description  Telecommunication Equipment at		Substati	Qty	(CIP to include clearing and forwarding charges to final destination)	Price
B tem No.	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations		Substati	Qty	(CIP to include clearing and forwarding charges to final destination)	Price
B A 1	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV		Unit	Ons Qty	(CIP to include clearing and forwarding charges to final destination)	Price
B A 1 1.1	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers		Unit No.	Ons Qty	(CIP to include clearing and forwarding charges to final destination)	Price
B A 1	Mandatory spare parts RTU's and substation works Totals  Telecommunication Equi  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV		Unit	Ons Qty	(CIP to include clearing and forwarding charges to final destination)	Price

	Lance with	Ale.			
2.1	SDH Multiplexers	No.	2		
2.2	Installation & requisite Integration Materials	Lot	1		-
			ļ		
3	Ikonge 33/11 kV		-	***	
3.1	Supply of ADSS FO to Peer Link End	Lot	1		
3.2	Uplink Switches for Peer to Peer Connection	No.	2		
3.3	Heavy Duty Substation Switch	No.	1		
3.4	Installation & requisite Integration Materials	Lot	1		
4	Kisii 33/11 kV		L		
4.1	SDH Multiplexers	No.	1		
4.2	Installation & requisite Integration Materials	Lot	1		
5	Kisumu East				
5.1	Uplink Switches for Peer to Peer Connection	No.	2		
5.2	Heavy Duty Substation Switch	No.	1		
5.3	Installation & requisite Integration Materials	Lot	1		
6	Mogogosiek 33/11 kV				
6.1	Uplink Switches for Peer to Peer Connection	No.	2	-	
6.2	Heavy Duty Substation Switch	No.	1		
6.3	Installation & Integration materials	Lot	1		
7	Obote Rd 33/11 kV				
7.1	Uplink Switches for Peer to Peer Connection	No.	2		
7.2	Heavy Duty Substation Switch	No.	1		
7.3	Installation & Integration materials	Lot	1		
	modular a magnatur materials				
8	Olkalau 33/11 kV				
8.1	Uplink Switches for Peer to Peer Connection	No.	2		
8.2	Heavy Duty Substation Switch	No.	1		
8.3	<del> </del>	Lot	1		
0.3	Installation & Integration materials	Lot	+		
-	Chaptule 22/44 kV		+		
9	Cheptulu 33/11 kV	Lot	1		
9.1	Supply of ADSS FO to Peer Link End		2		:
9.2	Uplink Switches for Peer to Peer Connection	No.	1		-
9.3	Heavy Duty Substation Switch	No.	+		
9.4	Installation & Integration materials	Lot	1		
			+		
10	Elburgon 33/11 kV		<del>-</del>		
10.1	Uplink Switches for Peer to Peer Connection	No.	2		
10.2	Heavy Duty Substation Switch	No.	1		
10.3	Installation & Integration materials	Lot	1		
			<del>                                     </del>		
11	Matundura 33/11 kV		-		
11.1	Supply of ADSS FO to Peer Link End	Lot	1		
11.2	Uplink Switches for Peer to Peer Connection	No.	2		
11.3	Heavy Duty Substation Switch	No.	1		L

-			_		
11.4	Installation & Integration materials	Lot	1	<del> </del>	<del> </del>
12	Marula 33/11 kV		+		-
12.1	Supply of ADSS FO to Peer Link End	Lot	1		
12.2	Uplink Switches for Peer to Peer Connection	No.	2		
12.3	Heavy Duty Substation Switch	Lot	1		†
12.4	Installation & Integration materials	Lot	1		
			<del>  '</del> -		
13	Kihoto 33/11 kV		<del>                                     </del>		1
13.1	Supply of ADSS FO to Peer Link End	Lot	1		
13.2	Uplink Switches for Peer to Peer Connection	No.	2		
13.3	Heavy Duty Substation Switch	Lot	1		
13.4	Installation & Integration materials	Lot	1		
14	Soilo 132/11 kV		1		
14.1	Installation & Integration materials	Lot	1		
15	Njoro 33/11 kV				
15.1	Uplink Switches for Peer to Peer Connection	No.	2		
15.2	Heavy Duty Substation Switch	No.	1		
15.3	Installation & Integration materials	Lot	1		
15.4	Supply of ADSS FO to Peer Link End	Lot	1		
16	Nyahururu 33/11 kV		ļ		
16.1	Uplink Switches for Peer to Peer Connection	No.	2		
16.2	Heavy Duty Substation Switch	No.	1		
16.3	Installation & Integration materials	Lot	1		
17	Rongai 33/11 kV		ļ		
17.1	Uplink Switches for Peer to Peer Connection	N-			
17.2		No.	2		
17.3	Heavy Duty Substation Switch	No.	1		
17.5	Installation & Integration materials	Lot	1		
18	Mwariki 33/11 kV		-		
18.1	Supply of ADSS FO to Peer Link End	Lot	1		
18.2	Uplink Switches for Peer to Peer Connection	No.	2		
18.3	Heavy Duty Substation Switch	No.	1		
18.4	Installation & Integration materials	Lot	1	_	
			<u> </u>		
19	Eldoret Depot 33/11 kV				
19.1	SDH Multiplexers	No.	2		
19.2	Installation & Integration materials	Lot	1		
20	Eldoret Industrial 33/11 kV				
20.1	Uplink Switches for Peer to Peer Connection	No.	2		
20.2	Heavy Duty Substation Switch	No.	1		
20.3	Installation & Integration materials	Lot	1		

			-	-
21	Kitale 33/11 kV			
21.1	Uplink Switches for Peer to Peer Connection	No.	2	
21.2	Heavy Duty Substation Switch	No.	1	
21.3	Installation & Integration materials	Lot	1	
22	Kapsabet 33/11 kV			
22.1	Uplink Switches for Peer to Peer Connection	No.	2	
22.2	Heavy Duty Substation Switch	No.	1	
22.3	Installation & Integration materials	Lot	1	
23	Turkwel 220kV			
	ETL 600 PLC, Installation & comissioning	1.01	1	
23.1	materials both ends	Lot		
24	Orpower 11/220			
24.1	Uplink Switches for Peer to Peer Connection	No.	2	
24.2	Heavy Duty Substation Switch	No.	1	
24.3	Installation & Integration materials	Lot	1	
25	Chepseon 33/11 kV			
25.1	Supply of ADSS FO to Peer Link End	Lot	1	
25.2	Installation & Integration materials	Lot	1	
26	Kainuk/Sarmarch			
26.4	Sweet of Annuach colds FO to Book link End	Lot	1	
26.1	Supply of Approach cable FO to Peer Link End	Eot	<u> </u>	
26.2	Installation & Integration materials	Lot	1	
27	Mai Mahiu 33/11 kV		ļ	
27.1	Uplink Switches for Peer to Peer Connection	No.	2	
27.2	Heavy Duty Substation Switch	No.	1	
27.3	Installation & Integration materials	Lot	1	
27.4	Supply of ADSS FO to Peer Link End	Lot	1	
Α.	Western Region Substations / Power			
Α	Stations Totals			
			<u> </u>	
В	Mandatory spare parts RTU's and			
	substation works	1000	+	
1	ADSS FO Cable (5%)	KMS	<del>                                     </del>	
2	Multiplexers	No.	1	
3	Uplink Switches	No.	2	
4	Station Switches	No.	1	
5	ODFs	No.	2	
6	FC - LC Patch Cords	No.	4	
7	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4	
8	Enhanced outdoor Cat5e Cable	m	300	

В	Mandatory spare parts RTU's and substation works Totals			
С	TOTAL (to Schedule No. 5. Grand Summary)			
	Name of Bidder			
	Signature of Bidder			
Notes				
<sup>1</sup> Bidders s	hall enter a code representing the country of origin of all impo	rted plant and equipment.		
<sup>2</sup> Specify c	urrency. Create and use as many columns for Unit Price and T	otal Price as there are current	cies.	

# Schedule No. 2. Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

Lot 3: Schedule 2

	SCADA EQUIPMENT AT SUBST	TATIONS			
tem No.	Description	Unit	Qty	Unit Price (EXW)	Total Price
			1	2	(1x2)
	SCADA Equipment at Substations				
A	Western Region Substations / Power Stations				
1	Kisumu East 33/11 kV				
1.1	New Remote Terminal Unit (RTU)	N°.	1		
1.2	Equipment and material for adaptation works	Lot	1		
1.3	48 V-DC Power Supply	Set	1		
2	Kakamega 33/11 kV				
2.1	New Remote Terminal Unit (RTU)	N°.	1		
2.2	Equipment and material for adaptation works	Lot	1	_	
2.3	48 V-DC Power Supply	Set	1		
3	Kericho. 33/11 kV				
3.1	New Remote Terminal Unit (RTU)	N°.	1		
3.2	Equipment and material for adaptation works	Lot	1		
3.3	48 V-DC Power Supply	Set	1		
4	Ikonge 33/11 kV				
4.1	New Remote Terminal Unit (RTU)	N°.	1		
4.2	Equipment and material for adaptation works	Lot	1		
4.3	48 V-DC Power Supply	Set	1		
5	Kisii 33/11 kV				

5.1	New Remote Terminal Unit (RTU)	N°.	1		
5.2	Equipment and material for adaptation works	Lot	1		
5.3	48 V-DC Power Supply	Set	1		
6	Mogogosiek 33/11 kV				
6.1	New Remote Terminal Unit (RTU)	N°.	1		
6.2	Equipment and material for adaptation works	Lot	1		
6.3	48 V-DC Power Supply	Set	1		
7	Obote Rd 33/11 kV				
7.1	New Remote Terminal Unit (RTU)	N°.	1		
7.2	Equipment and material for adaptation works	Lot	1		
7.3	48 V-DC Power Supply	Set	1		
8	Olkalau 33/11 kV				
8.1	New Remote Terminal Unit (RTU)	N°.	1		
8.2	Equipment and material for adaptation works	Lot	1		
8.3	48 V-DC Power Supply	Set	1		
9	Cheptulu 33/11 kV				
9.1	New Remote Terminal Unit (RTU)	N°.	1		
9.2	Equipment and material for adaptation works	Lot	1		
9.3	48 V-DC Power Supply	Set	1		
10	Elburgon 33/11 kV				
10.1	New Remote Terminal Unit (RTU)	N°.	1		
10.2	Equipment and material for adaptation works	Lot	1		
10.3	48 V-DC Power Supply	Set	1		
11	Matundura 33/11 kV				_
11.1	New Remote Terminal Unit (RTU)	N°.	1		
11.2	Equipment and material for adaptation works	Lot	1		
11.3	48 V-DC Power Supply	Set	1		
12	Marula 33/11 kV				
12.1	New Remote Terminal Unit (RTU)	N°.	1		
12.2					
	Equipment and material for adaptation works	Lot	1		

13	Kihoto 33/11 kV			<del> </del>	
13.1	New Remote Terminal Unit (RTU)	N°.	1		
13.2	Equipment and material for adaptation works	Lot	1		
13.3	48 V-DC Power Supply	Set	1		
				ļ	
14	Soilo 132/11 kV		·		-
14.1	Existing/ New Remote Terminal Unit (RTU)	N°.	1		
14.2	Equipment and material for adaptation works	Lot			
15	Nakuru Depot 33/11 kV				
15.1	New Remote Terminal Unit (RTU)	N°.	1		
15.2	Equipment and material for adaptation works	Lot	1		
15.3	48 V-DC Power Supply	Set	1		
16	Njoro 33/11 kV				
16.1	New Remote Terminal Unit (RTU)	N°.	1		
16.2	Equipment and material for adaptation works	Lot	1		
16.3	48 V-DC Power Supply	Set	1		
17	Nyahururu 33/11 kV				
17.1	New Remote Terminal Unit (RTU)	N°.	1		
17.2	Equipment and material for adaptation works	Lot	1		
17.3	48 V-DC Power Supply	Set	1		
18	Rongai 33/11 kV				
18.1	New Remote Terminal Unit (RTU)	N°.	1		
18.2	Equipment and material for adaptation works	Lot	1		
18.3	48 V-DC Power Supply	Set	1		
19	Mwariki 33/11 kV				
19.1	New Remote Terminal Unit (RTU)	N°.	1		-
19.1	Equipment and material for adaptation works	Lot	1	+	-
19.2	48 V-DC Power Supply	Set	1		
20	Eldoret Depot 33/11 kV				
20.1	New Remote Terminal Unit (RTU)	N°.	1		
20.2	Equipment and material for adaptation works	Lot	1		

_					
20.3	48 V-DC Power Supply	Set	1		
21	Eldonal Industrial 20144 (A)		-		
	Eldoret Industrial 33/11 kV			-	
21.2	New Remote Terminal Unit (RTU)	N°.	1	<del> </del>	
21.3	Equipment and material for adaptation works	Lot	1		
21.4	48 V-DC Power Supply	Set	1		<u> </u>
22	Kitale 33/11 kV				
22.1	New Remote Terminal Unit (RTU)	N°.	1		-
22.2	Equipment and material for adaptation works	Lot	1		-
22.3	48 V-DC Power Supply	Set	1		-
			<u>'</u>		
23	Kapsabet 33/11 kV				
23.1	New Remote Terminal Unit (RTU)	N°.	1		
23.2	Equipment and material for adaptation works	Lot	1		
23.3	48 V-DC Power Supply	Set	1		
24	Turkwel 11/220kV				
24.1	extension / re-use exisitng RTU	N°.	1		
24.2	Equipment and material for adaptation works	Lot	1		
25	Homa bay 33/11 kV				
25.1	New Remote Terminal Unit (RTU)	N°.	1		
25.2	Equipment and material for adaptation works	N°.	1		
25.3	48 V-DC Power Supply	Lot	1		
26	Muhoroni 33/11kV				
26.1	New Remote Terminal Unit (RTU)	A10		<u> </u>	
26.2	Equipment and material for adaptation works	N°.	1		
26.3	48 V-DC Power Supply	Lot	1		
20.3	40 V-20 T Owel Cappiy	Lot	1		
27	Orpower 11/220 Kv	-			
27.1	extension / re-use exisitng RTU	N°.	1		
27.2	Equipment and material for adaptation works	Lot	1		-
28	Keroka 33/11 kV				
28.1	New Remote Terminal Unit (RTU)	N°.	1		
28.2	Equipment and material for adaptation works	Lot	1		

20.2	49 V DC Payer Sweets	Set	1		
28.3	48 V-DC Power Supply	Set	3.		
29	Migori 33/11 kV	N°.	1		
29.1	New Remote Terminal Unit (RTU)		-		
29.2	Equipment and material for adaptation works	Lot	1		<u> </u>
29.3	48 V-DC Power Supply	Set	1		
		_			<u> </u>
30	Webuye 132/33 kV	140			
30.1	New Remote Terminal Unit (RTU)	N°.	1		
30.2	Equipment and material for adaptation works	Lot	1		
30.3	48 V-DC Power Supply	Set	1		
				<u> </u>	
31	Chemosit 132/33 kV Capacitor bank bays			<u> </u>	
31.1	extension / re-use exisitng RTU	N°.	1		
31.2	Equipment and material for adaptation works	Lot	1		
				ļ .	
32	Kisumu 132/33 kV capacitor bank bays				
32.1	extension / re-use exisitng RTU	N°.	1	ļ	
32.2	Equipment and material for adaptation works	Lot	1	ļ	
				<u> </u>	
33	Kegati 132/33 kV Capacitor bank bays				
33.1	extension / re-use exisitng RTU	N°.	1		
33.2	Equipment and material for adaptation works	Lot	1		
34	Eldoret 132/33 kV Capacitor bank bays				
34.1	extension / re-use exisitng RTU	N°.	1		
34.2	Equipment and material for adaptation works	Lot	1		
35	Lanet 132/33 kV Capacitor bank bays				
35.1	extension / re-use exisitng RTU	N°.	1		
35.2	Equipment and material for adaptation works	N°.	1		10
36	Musaga 132/33 kV Capacitor bank bays				
36.1	extension / re-use exisitng RTU	N°.	1		
36.2	Equipment and material for adaptation works	Lot	1		
37	Mai Mahiu 132/33 kV				
37.1	New Remote Terminal Unit (RTU)	N°.	1	1	
		727	1		

		Т		_	1
37.2	Equipment and material for adaptation works	Lot	1		
37.3	48 V-DC Power Supply	Set	1		
A	Western Region Substations / Power Stations Totals				
В	Mandatory spare parts RTU's and substation works				
	remarks:				
	Tenderer shall provide a list of recommended spare parts for long-term operation				
1.1	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1		
1.2	Interface Testing Equipment for all digital and analogue I/O-signals	No.	1		
1.3	Interface Testing Equipment for Communication from/to SCADA/EMS-System incl. Software	No.	1		
1.4	Equipment for adaptation works	set	1		
1.5	48 V DC Supply equipment	set	1		
1.6	Ferrule Marking Machine	set	2		
В	Mandatory spare parts RTU's and substation works Totals				
	WORKS TOTALS				
	works rotals		-		
	works rotals				
		at Sub			
	Telecommunication Equipment	at Sub	stations		
Item No.		at Sub	stations	Unit Price (EXW)	Total Price
	Telecommunication Equipment			Unit Price	
	Telecommunication Equipment		Qty	Unit Price (EXW)	Total Price
	Telecommunication Equipment  Description  Telecommunication Equipment at		Qty	Unit Price (EXW)	
No.	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations		Qty	Unit Price (EXW)	
No.	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV	Unit	Qty -1	Unit Price (EXW)	
No.	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations		Qty	Unit Price (EXW)	
A 1 1.1	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers	Unit	Qty -1	Unit Price (EXW)	
A 1 1.1	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers	Unit	Qty -1	Unit Price (EXW)	
A 1 1.1 1.2 2 2.1	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers  Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers	Unit	Qty -1	Unit Price (EXW)	
A 1 1.1 1.2 2	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Kericho 33/11 kV	No.	Qty -1 2 1	Unit Price (EXW)	
A 1 1.1 1.2 2 2.1	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers  Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers	No. Lot	2 1	Unit Price (EXW)	
A  1 1.1 1.2  2 2.1 2.2	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials	No. Lot	2 1	Unit Price (EXW)	
A 1 1.1 1.2 2 2.1 2.2	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials	No. Lot No. Lot	2 1 1	Unit Price (EXW)	
A  1 1.1 1.2  2 2.1 2.2  3 3.1	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Ikonge 33/11 kV  Supply of ADSS FO to Peer Link End	No. Lot Lot	2 1 1 1	Unit Price (EXW)	
A 1 1.1 1.2 2 2.1 2.2 3 3.1 3.2	Telecommunication Equipment  Description  Telecommunication Equipment at Substations  Western Region Substations / Power Stations  Kakamega 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Kericho 33/11 kV  SDH Multiplexers Installation & requisite Integration Materials  Ikonge 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection	No. Lot Lot No.	2 1 1 2 1 2 2	Unit Price (EXW)	

4	Kisii 33/11 kV				
4.1	SDH Multiplexers	No.	1		
4.2	Installation & requisite Integration Materials	Lot	1		-
5	Kisumu East				
5.1	Uplink Switches for Peer to Peer Connection	No.	2	+	
5.2	Heavy Duty Substation Switch	No.	1	+	
5.3	Installation & requisite Integration Materials	Lot	1	+	
5.5	installation & requisite integration materials	201	'		
6	Mogogosiek 33/11 kV				
6.1	Uplink Switches for Peer to Peer Connection	No.	2		
6.2	Heavy Duty Substation Switch	No.	1		
6.3	Installation & Integration materials	Lot	1	ļ	
7	Obote Rd 33/11 kV				
7.1	Uplink Switches for Peer to Peer Connection	No.	2		
7.2	Heavy Duty Substation Switch	No.	1	1	
7.3	Installation & Integration materials	Lot	1	1	
8	Olkalau 33/11 kV				
8.1	Uplink Switches for Peer to Peer Connection	No.	2		
8.2	Heavy Duty Substation Switch	No.	1		
8.3	to stallation 9 Internation meterials	1 4	1	1	1
0.5	Installation & Integration materials	Lot	<u> </u>	-	
		Lot			
9	Cheptulu 33/11 kV	Lot	1		
9	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End				
9 9.1 9.2	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection	Lot	1		
9 9.1 9.2 9.3	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	Lot No.	1 2		
9 9.1 9.2	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection	Lot No. No.	1 2 1		
9 9.1 9.2 9.3	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	Lot No. No.	1 2 1		
9 9.1 9.2 9.3 9.4	Cheptulu 33/11 kV Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials	Lot No. No.	1 2 1		
9 9.1 9.2 9.3 9.4	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV	Lot No. No. Lot	1 2 1		
9 9.1 9.2 9.3 9.4 10	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection	Lot No. No. Lot	1 2 1 1 2 2		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials	Lot No. No. Lot	1 2 1 1 2 2 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV	Lot No. No. Lot	1 2 1 1 2 2 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End	Lot No. No. Lot No. Lot	1 2 1 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection	Lot No. No. No. Lot Lot	1 2 1 1 2 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End	Lot No. No. Lot Lot Lot No. No. Lot	1 2 1 1 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3 11 11.1 11.2 11.3 11.4	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials	Lot No. No. Lot Lot No. Lot No. Lot No. Lot	1 2 1 1 1 2 1 1 2 1 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3 11 11.1 11.2 11.3 11.4	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Marula 33/11 kV	Lot No. No. Lot  No. Lot  Lot  Lot  Lot	1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3 11 11.1 11.2 11.3 11.4	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Marula 33/11 kV  Supply of ADSS FO to Peer Link End	Lot No. No. Lot  Lot No. Lot  Lot  Lot  Lot  Lot	1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3 11 11.1 11.2 11.3 11.4 12 12.1	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Marula 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection	Lot No. No. Lot No. Lot Lot No. Lot No. Lot No. No. Lot	1 2 1 1 2 1 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1		
9 9.1 9.2 9.3 9.4 10 10.1 10.2 10.3 11 11.1 11.2 11.3 11.4	Cheptulu 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Elburgon 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Matundura 33/11 kV  Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Marula 33/11 kV  Supply of ADSS FO to Peer Link End	Lot No. No. Lot  Lot No. Lot  Lot  Lot  Lot  Lot	1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

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13	Kihoto 33/11 kV		-		
13.1	Supply of ADSS FO to Peer Link End	Lot	1		
13.2	Uplink Switches for Peer to Peer Connection	No.	2		
13.3	Heavy Duty Substation Switch	Lot	1		
13.4	Installation & Integration materials	Lot	1		
14	Soilo 132/11 kV				
14.1	Installation & Integration materials	Lot	1		
			ļ		
15	Njoro 33/11 kV				
15.1	Uplink Switches for Peer to Peer Connection	No.	2		
15.2	Heavy Duty Substation Switch	No.	1		
15.3	Installation & Integration materials	Lot	1		
15.4	Supply of ADSS FO to Peer Link End	Lot	1		
				ļ	
16	Nyahururu 33/11 kV			-	
16.1	Uplink Switches for Peer to Peer Connection	No.	2		
16.2	Heavy Duty Substation Switch	No.	1	-	
16.3	Installation & Integration materials	Lot	1		
				-	ļ
17	Rongai 33/11 kV				ļ
17.1	Uplink Switches for Peer to Peer Connection	No.	2	-	
17.2	Heavy Duty Substation Switch	No.	1		
17.3	Installation & Integration materials	Lot	1 1		1
				+	
	RAugeibi 22/44 bV				
18	Mwariki 33/11 kV				
18 18.1	Supply of ADSS FO to Peer Link End	Lot	1		
18 18.1 18.2	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection	Lot No.	1 2		
18 18.1 18.2 18.3	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	Lot No. No.	1 2 1		
18 18.1 18.2	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection	Lot No.	1 2		
18 18.1 18.2 18.3 18.4	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials	Lot No. No.	1 2 1		
18 18.1 18.2 18.3 18.4	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV	Lot No. No. Lot	1 2 1 1		
18 18.1 18.2 18.3 18.4 19	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV SDH Multiplexers	Lot No. No. Lot	1 2 1 1 2		
18 18.1 18.2 18.3 18.4	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV	Lot No. No. Lot	1 2 1 1		
18 18.1 18.2 18.3 18.4 19	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV SDH Multiplexers Installation & Integration materials	Lot No. No. Lot	1 2 1 1 2		
18 18.1 18.2 18.3 18.4 19 19.1 19.2	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers  Installation & Integration materials  Eldoret Industrial 33/11 kV	Lot No. No. Lot	1 2 1 1 2 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers  Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection	Lot No. No. Lot No. Lot	1 2 1 1 2 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers  Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch	Lot No. Lot No. Lot No. Lot	1 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers  Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection	Lot No. No. Lot No. Lot	1 2 1 1 2 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers  Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch	Lot No. Lot No. Lot No. Lot	1 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1		
18 18.1 18.2 18.3 18.4  19 19.1 19.2  20 20.1 20.2 20.3	Supply of ADSS FO to Peer Link End Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Kitale 33/11 kV	Lot No. No. Lot No. Lot Lot	1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2 20.3	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch  Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection  Heavy Duty Substation Switch Installation & Integration materials	No. Lot No. Lot No. Lot No. Lot	1 2 1 1 2 1 1 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2 20.3	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Kitale 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	No. No. Lot No. Lot No.	1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2 20.3 21 21.1 21.2	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Kitale 33/11 kV  Uplink Switches for Peer to Peer Connection	No. Lot No. Lot No. Lot No. Lot	1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 1		
18 18.1 18.2 18.3 18.4 19 19.1 19.2 20 20.1 20.2 20.3 21 21.1 21.2	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Kitale 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch	No. No. Lot No. Lot No.	1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 1		
18 18.1 18.2 18.3 18.4  19 19.1 19.2  20 20.1 20.2 20.3  21 21.1 21.2 21.3	Supply of ADSS FO to Peer Link End  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Eldoret Depot 33/11 kV  SDH Multiplexers Installation & Integration materials  Eldoret Industrial 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials  Kitale 33/11 kV  Uplink Switches for Peer to Peer Connection Heavy Duty Substation Switch Installation & Integration materials	No. No. Lot No. Lot No.	1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 1		

22.3	Installation & Integration materials	Lot	1		
23	Turkwel 220kV				
23.1	ETL 600 PLC, Installation & comissioning materials	Lot	1		
	both ends				<u> </u>
24	Orpower 11/220				
24.1	Uplink Switches for Peer to Peer Connection	No.	2		
24.2	Heavy Duty Substation Switch	No.	1		
24.3	Installation & Integration materials	Lot	1		
25	Chepseon 33/11 kV				-
25.1	Supply of ADSS FO to Peer Link End	Lot	1		
25.2	Installation & Integration materials	Lot	1		
		1		<u> </u>	
26	Kainuk/Sarmarch				
26.1	Supply of ADSS FO to Peer Link End				
26.2	Installation & Integration materials	Lot	1	_	
27	Mai Mahiu 33/11 kV				
27.1	Uplink Switches for Peer to Peer Connection	No.	2	-	
27.2	Heavy Duty Substation Switch	No.	1		
27.3	Installation & Integration materials	Lot	1	<del>                                     </del>	
27.4	Supply of ADSS FO to Peer Link End	Lot	1		
A	Western Region Substations / Power Stations Totals				
В	Mandatory spare parts RTU's and substation works				1
1	ADSS FO Cable (10%)	KMS	13		
2	Multiplexers	No.	1		
3	Uplink Switches	No.	2		
4	Station Switches	No.	1		
5	ODFs	No.	2		
6	FC - LC Patch Cords	No.	4		
7	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4		
8	Enhanced outdoor Cat5e Cable	m	300		
В	Mandatory spare parts RTU's and substation works Totals				
	TOTAL (4. Calcadula No. 5. Cound Summary)				
С	TOTAL (to Schedule No. 5. Grand Summary)				
С	Name of Bidder				
С				T	

# Schedule No. 3. Design Services

Lot 3: Schedule 3

Desig	n Services						·	
	SCADA & Telcom De	signs						
14				Unit	Price	Total	Price	
No.	Description	Unit	Qty	Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	
		ļ	1	2	3	(1x2)	(1x3)	
	SCADA & Telcom Designs at Substations							
A	Western Region Substations / Power Stations							
100	Kisumu East 33/11 kV							
101	Substation Adaptation /Engineering Designs	Lot	1					
102	Data Engineering	Lot	1					
103	Telecommunication Design & Integration	Lot	1					
200	Kakamega 33/11 kV							
201	Substation Adaptation /Engineering Designs	Lot	1					
202	Data Engineering	Lot	1					
203	Telecommunication Design & Integration	Lot	1					
300	Kericho. 33/11 kV						<u> </u>	
301	Substation Adaptation /Engineering Designs	Lot	1					
302	Data Engineering	Lot	1					
303	Telecommunication Design & Integration	Lot	1					
400	Ikonge 33/11 kV							
401	Substation Adaptation /Engineering Designs	N°.	1					
402	Data Engineering	Lot	1					
403	Telecommunication Design & Integration	Lot	1					
500	Kisii 33/11 kV	_	$\dashv$					
501	Substation Adaptation /Engineering Designs	Lot	1					

				 r	Т	<del></del>
502	Data Engineering	Lot	1			
503	Telecommunication Design & Integration	Lot	1	 		
600	Mogogosiek 33/11 kV					
601	Substation Adaptation /Engineering Designs	Lot	1	 		
602	Data Engineering	Lot	1			
603	Telecommunication Design & Integration	Lot	1			
700	Obote Rd 33/11 kV					
701	Substation Adaptation /Engineering Designs	Lot	1			
702	Data Engineering	Lot	1			
703	Telecommunication Design & Integration	Lot	1			
800	Olkalau 33/11 kV				<u> </u>	
801	Substation Adaptation /Engineering Designs	Lot	1			
802	Data Engineering	Lot	1	 _		
803	Telecommunication Design & Integration	Lot	1			
900	Cheptulu 33/11 kV					
901	Substation Adaptation /Engineering Designs	Lot	1			
902	Data Engineering	Lot	1_			
903	Telecommunication Design & Integration	Lot	1_			
1000	Elburgon 33/11 kV					
1001	Substation Adaptation /Engineering Designs	Lot	1			
1002	Data Engineering	Lot	1			
1003	Telecommunication Design & Integration	Lot	1			
1100	Matundura 33/11 kV					
1101	Substation Adaptation /Engineering Designs	Lot	1			
1102	Data Engineering	Lot	1			
1103	Telecommunication Design & Integration	Lot	1			
1200	Marula 33/11 kV			 		
1201	Substation Adaptation /Engineering Designs	Lot	1	 		
1202	Data Engineering	Lot	1	 _		
1203	Telecommunication Design & Integration	Lot	1			

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					-		ļ
1300	Kihoto 33/11 kV						
1301	Substation Adaptation /Engineering Designs	Lot	1		ļ	===	
1302	Data Engineering	Lot	1				
1303	Telecommunication Design & Integration	Lot	1				
1400	Soilo 132/11 kV						
1401	Substation Adaptation /Engineering Designs	Lot	1				
1402	Data Engineering	Lot	1				
1500	Nakuru Depot 33/11 kV						
1501	Substation Adaptation /Engineering Designs	Lot	1				
1502	Data Engineering	Lot	1				
1503	Telecommunication Design & Integration	Lot	1				
1600	Njoro 33/11 kV						
1601	Substation Adaptation /Engineering Designs	Lot	1				
1602	Data Engineering	Lot	1				
1603	Telecommunication Design & Integration	Lot	1				
1700	Nyahururu 33/11 kV						
1701	Substation Adaptation /Engineering Designs	Lot	1				
1702	Data Engineering	Lot	1				
1703	Telecommunication Design & Integration	Lot	1				
1800	Rongai 33/11 kV						
1801	Substation Adaptation /Engineering Designs	Lot	1				
1802	Data Engineering	Lot	1				
1803	Telecommunication Design & Integration	Lot	1				
1900	Mwariki 33/11 kV						
1901	Substation Adaptation /Engineering Designs	Lot	1				
1902	Data Engineering	Lot	1				
1903	Telecommunication Design & Integration	Lot	1				
2000	Eldoret Depot 33/11 kV						
2001	Substation Adaptation /Engineering Designs	Lot	1				

2002	Data Engineering	Lot	1	97	T		
	Data Engineering						
2003	Telecommunication Design & Integration	Lot	1				
			0.75			<u></u>	
2100	Eldoret Industrial 33/11 kV		<u> </u>	-		<u> </u>	
2101	Substation Adaptation /Engineering Designs	Lot	1				
2102	Data Engineering	Lot	1				
2103	Telecommunication Design & Integration	Lot	1				
2200	Kitale 33/11 kV						
2201	Substation Adaptation /Engineering Designs	Lot	1				
2202	Data Engineering	Lot	1				
2203	Telecommunication Design & Integration	Lot	1				
2300	Kapsabet 33/11 kV						
2301	Substation Adaptation /Engineering Designs	Lot	1				
2302	Data Engineering	Lot	m.1				
2303	Telecommunication Design & Integration	Lot	1				
	9 -						
2400	Turkwei 11/220kV						
2401	Substation Adaptation /Engineering Designs	Lot	1				
2402	Data Engineering	Lot	1				
2403	Telecommunication Design & Integration	Lot	1				
2500	Homabay 33/11 kV						
2501	Substation Adaptation /Engineering Designs	Lot	1				
2502	Data Engineering	Lot	1				
2503	Telecommunication Design & Integration	Lot	1				
2600	Muhoroni 132/33kV			-			
2601	Substation Adaptation /Engineering Designs	Lot	1				
2602	Data Engineering	Lot	1				
2603	Telecommunication Design & Integration	Lot	1				
2700	Orpower 11/220 Kv						,
2701	Substation Adaptation /Engineering Designs	Lot	1				
2702	Data Engineering	Lot	1				
	<u> </u>	<u> </u>	<u> </u>	l			

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2800	Chepseon 33/11 kV						
2801	Data Engineering	Lot	1				
2802	Telecommunication Design & Integration	Lot	1				
2900	Kainuk/Sarmarch						
2901	Telecommunication Design & Integration	Lot	1		-	<del> </del>	<u> </u>
		<u> </u>	_				ļ
3000	Keroka 33/11 kV	<u> </u>		ļ <u>.</u>		ļ	
3001	Substation Adaptation /Engineering Designs	Lot	1				
3002	Data Engineering	Lot	1				
3003	Telecommunication Design & Integration	Lot	1				
3100	Migori 33/11 kV						
3101	Substation Adaptation /Engineering Designs	Lot	1				
3102	Data Engineering	Lot	1				
3103	Telecommunication Design & Integration	Lot	1				
3200	Webuye 132/33 kV						
3201	Substation Adaptation /Engineering Designs	Lot	1				
3202	Data Engineering	Lot	1				
3203	Telecommunication Design & Integration	Lot	1				
3300	Chemosit 132/33 kV Capacitor bank bays					<u> </u>	
3301	Substation Adaptation /Engineering Designs	Lot	1			_	
3302	Data Engineering	Lot	1				
3400	Kisumu 132/33 kV capacitor bank bays						
3401	Substation Adaptation /Engineering Designs	Lot	1				
3402	Data Engineering	Lot	1				
						ļ. Ī	
3500	Kegati 132/33 kV Capacitor bank bays						
3501	Substation Adaptation /Engineering Designs	Lot	1				
3502	Data Engineering	Lot	1				
250-	F11 (400/00)		·				
3600	Eldoret 132/33 kV Capacitor bank bays			_			
3601	Substation Adaptation /Engineering Designs	Lot	1				
3602	Data Engineering	Lot	1				

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3700	Lanet 132/33 kV Capacitor bank bays					
3701	Substation Adaptation /Engineering Designs	Lot	1			
3702	Data Engineering	Lot	1			
3800	Musaga 132/33 kV Capacitor bank bays					
3801	Substation Adaptation /Engineering Designs	Lot	1_			
3802	Data Engineering	Lot	1			
3900	Mai Mahiu 33/11 kV					
3901	Substation Adaptation /Engineering Designs	Lot	1			
3902	Data Engineering	Lot	1			
3903	Telecommunication Design & Integration	Lot	1			
	TOTAL (to Schedule No. 5. Grand Summary)					
	Name of Bidder					
	Signature of Bidder					

#### Notes

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid

## Schedule No. 4. Installations and Other Services

Lot 3: Schedule 4

	SCADA EQUIPME	NT AT S	UBST	ATIONS			
la				Unit	Price	Total Price	
Item No.	Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Current Portion
			-1	-2	-3	(1) x (2)	(1) x (3)
	SCADA Equipment at Substations						
Α	Western Region Substations / Power Stations						
1	Kisumu East 33/11 kV						
1.1	Integration to the Scada Central system	Lot	1				
1.2	Installation & requisite Integration works	Lot	1				
2	Kakamega 33/11 kV						
2.1	Integration to the Scada Central system	Lot	1				
2.2	Installation & requisite Integration works	Lot	1				
3	Kericho. 33/11 kV						
3.1	Integration to the Scada Central system	Lot	1	-			
3.2	Installation & requisite Integration works	Lot	1				
4	Ikonge 33/11 kV						
4.1	Integration to the Scada Central system	Lot	1				
4.2	Installation & requisite Integration works	Lot	1				
5	Kisii 33/11 kV						
5.1	Integration to the Scada Central system	Lot	1				
5.2	Installation & requisite Integration works	Lot	1				
6	Mogogosiek 33/11 kV						
6.1	Integration to the Scada Central system	Lot	1				
6.2	Installation & requisite Integration works	Lot	1				

		T			T	T	1
7	Obote Rd 33/11 kV			,			
7.1	Integration to the Scada Central system	Lot	1				
7.2	Installation & requisite Integration works	Lot	1				
						ļ	
8	Olkalau 33/11 kV						
8.1	Integration to the Scada Central system	Lot	1				
8.2	Installation & requisite Integration works	Lot	1				
				:			
9	Cheptulu 33/11 kV						
9.1	Integration to the Scada Central system	Lot	1				
9.2	Installation & requisite Integration works	Lot	1				
10	Elburgon 33/11 kV						
10.1	Integration to the Scada Central system	Lot	1				
10.2	Installation & requisite Integration works	Lot	1				
11	Matundura 33/11 kV						
11.1	Integration to the Scada Central system	Lot	1				
11.2	Installation & requisite Integration works	Lot	1				
12	Marula 33/11 kV						
12.1	Integration to the Scada Central system	Lot	1				
12.2	Installation & requisite Integration works	Lot	1				
13	Kihoto 33/11 kV						
13.1	Integration to the Scada Central system	Lot	1				
13.2	Installation & requisite Integration works	Lot	1				
14	Soilo 132/11 kV						
14.1	Integration to the Scada Central system	Lot	1			1	
14.2	Installation & requisite Integration works	Lot	1		<u> </u>	1	
						†	
15	Nakuru Depot 33/11 kV						
15.1	Integration to the Scada Central system	Lot	1				
15.2	Installation & requisite Integration works	Lot	1				
16	Njoro 33/11 kV					1	
16.1	Integration to the Scada Central system	Lot	1				
10.1	integration to the ocada Central system	LOI					L

16.2	Installation & requisite Integration works	Lot	1				
17	Nyahururu 33/11 kV		ļ				-
17.1	Integration to the Scada Central system	Lot	1	<u>.</u>	1		+
17.2	Installation & requisite Integration works	Lot	1	1	+	-	
17.2	mistaliation a requisite integration works	LOI	'				
18	Rongai 33/11 kV						
18.1	Integration to the Scada Central system	Lot	1	†			
18.2	Installation & requisite Integration works	Lot	1	1			
19	Mwariki 33/11 kV						
19.1	Integration to the Scada Central system	Lot	1				
19.2	Installation & requisite Integration works	Lot	1				
20	Eldoret Depot 33/11 kV						
20.1	Integration to the Scada Central system	Lot	1				
20.2	Installation & requisite Integration works	Lot	1				
21	Eldoret Industrial 33/11 kV						
21.1	Integration to the Scada Central system	Lot	1				
21.2	Installation & requisite Integration works	Lot	1				
22	Kitale 33/11 kV						
22.1	Integration to the Scada Central system	Lot	1				
22.2	Installation & requisite Integration works	Lot	1				
23	Kapsabet 33/11 kV						
23.1	Integration to the Scada Central system	Lot	1				
23.2	Installation & requisite Integration works	Lot	1				
24	Turkwel 11/220kV						
24.1	Integration to the Scada Central system	Lot	1				
24.2	Installation & requisite Integration works	Lot	1				,
							-
25	Orpower11/220 Kv						
25.1	Integration to the Scada Central system	Lot	1				
25.2	Installation & requisite Integration works	Lot	_1				

26	Chepseon 33/11 kV			Ī			T
		1.54	1				
26.1	Integration to the Scada Central system	Lot		1			
26.2	Installation & requisite Integration works	Lot	1				1,
					+		
27	Kainuk/Sarmarch			ļ	-	1	
27.1	Integration to the Scada Central system Installation & requisite Integration works	Lot Lot	1	<u> </u>			
21.2	Installation & requisite integration works	Lot	'		+		
28	Keroka 33/11 kV					+	
28.1	Integration to the Scada Central system	Lot	1		†		
28.2	Installation & requisite Integration works	Lot	1		1	<del>                                     </del>	
	motanetor a requisite integration treats						
29	Migori 33/11 kV						
29.1	Integration to the Scada Central system	Lot	1				
29.2	Installation & requisite Integration works	Lot	1				
30	Webuye 132/33 kV						
30.1	Integration to the Scada Central system	Lot	1				
30.2	Installation & requisite Integration works	Lot	1				†
31	Chemosit 132/33 kV Capacitor bank bays						
31.1	Integration to the Scada Central system	Lot	1				
31.2	Installation & requisite Integration works	Lot	1				
32	Kisumu 132/33 kV capacitor bank bays						
32.1	Integration to the Scada Central system	Lot	1				
32.2	Installation & requisite Integration works	Lot	1				
33	Kegati 132/33 kV Capacitor bank bays						
33.1	Integration to the Scada Central system	Lot	1				
33.2	Installation & requisite Integration works	Lot	1				
34	Eldoret 132/33 kV Capacitor bank bays						
34.1	Integration to the Scada Central system	Lot	1				
34.2	Installation & requisite Integration works	Lot	1				
35	Lanet 132/33 kV Capacitor bank bays						
35.1	Integration to the Scada Central system	Lot	1				

Telecommunication Equipment at				<del>                                     </del>	11/01/	1.7.4.197
Description	Unit	Qty	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion	Local Currence Portion
			Unit	Price	Total	Price
Telecommunication Equipment	at S	ubst	ations			
Participation of KPLC personnel in Factory Tests						
5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot	1				
Participation of KPLC personnel in Factory Tests		:				
Overseas training Totals						
bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot	1				
Overseas training 2	-		-			
excluding air travel and accomodation ( each lot)						
Training courses (detailed specification to be	Lot	1				
Overseas training 1						
Overseas Training						
Western Region Substations / Power Stations Totals						
installation & requisite integration works	Lot	'				
	+	+				
Mai Mahiu 33/11 kV		<u> </u>				
The state of the s	201	Ė				
	-	+				
	ļ			-	-	-
	ļ					
	Integration to the Scada Central system Installation & requisite Integration works  Western Region Substations / Power Stations Totals  Overseas Training  Overseas training 1  Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)  Overseas training 2  Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)  Overseas training Totals  Participation of KPLC personnel in Factory Tests  5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)  Participation of KPLC personnel in Factory Tests  Telecommunication Equipment	Integration to the Scada Central system  Installation & requisite Integration works  Lot  Mai Mahiu 33/11 kV  Integration to the Scada Central system  Installation & requisite Integration works  Lot  Western Region Substations / Power Stations Totals  Overseas Training  Overseas training 1  Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation (each lot)  Overseas training 2  Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)  Overseas training Totals  Participation of KPLC personnel in Factory Tests  5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)  Lot  Participation of KPLC personnel in Factory Tests  Telecommunication Equipment at Si	Integration to the Scada Central system  Installation & requisite Integration works  Installation & requisite Integration works  Integration to the Scada Central system  Installation & requisite Integration works  Installation & requisite Integration Integration integration works  Installation & requisite Integration integra	Integration to the Scada Central system  Installation & requisite Integration works  Installation & requisite Integration works  Integration to the Scada Central system  Integration to the Scada Central system  Installation & requisite Integration works  Installation & Instal	Integration to the Scada Central system  Installation & requisite Integration works  Lot 1  Installation & requisite Integration works  Lot 1  Integration to the Scada Central system  Installation & requisite Integration works  Lot 1  Installation & requisite Integration works  Lot 1  Western Region Substations / Power Stations Totals  Overseas Training  Overseas Training 1  Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)  Overseas training 2  Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)  Overseas training Totals  Participation of KPLC personnel in Factory Tests  5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)  Participation of KPLC personnel in Factory Tests  Telecommunication Equipment at Substations  Unit Price Foreign Currency Portion Portion Unit Price Foreign Portion Portion7 -2 -3	Integration to the Scada Central system  Installation & requisite Integration works  Lot 1  Mai Mahiu 33/11 kV  Integration to the Scada Central system  Installation & requisite Integration works  Lot 1  Western Region Substations / Power Stations Totals  Overseas Training  Overseas Training  Overseas training 1  Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation ( each lot)  Overseas training 2  Training courses IEC 61850 as per bidspecifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)  Overseas training 7  Overseas training Totals  Participation of KPLC personnel in Factory Tests  Telecommunication Equipment at Substations  Telecommunication Equipment at Substations  Unit Cty Portion  Unit Cty Portion Po

Α	Western Region Substations / Power Stations						
1	Kakamega 33/11 kV	-					
1.2	Installation & requisite Integration works	Lot	1			<del> </del>	
2	Kericho 33/11 kV						
2.1	Installation & requisite Integration works	Lot	1				
3	Ikonge 33/11kV						
3.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
3.2	Installation & requisite Integration works	Lot	1			-	ļ
	Kisii 33/11 kV						<u> </u>
4		Lot	1	-			
4.1	Installation & requisite Integration works	LOI	<b>'</b>	-			
5	Kisumu East						
5.1	Installation & requisite Integration works	Lot	1				1
	,						
6	Mogogosiek 33/11 kV						
6.1	Installation & Integration works	Lot	1				
7	Obote Rd 33/11 kV						
7.1	Installation & requisite Integration works	Lot	1				
							+
8	Olkalau 33/11 kV	1 -1			-		
8.1	Installation & testing of ADSS FO to Peer Link End	Lot	1		-	-	
0.2	Installation & Integration works	101	'				<u> </u>
9	Cheptulu 33/11 kV						
9.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
9.2	Installation & Integration works	Lot	1				
10	Elburgon 33/11 kV						
10.1	Installation & requisite Integration works	Lot	1				
11	Matundura 33/11 kV	<u> </u>					
11.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
11.2	Installation & requisite Integration works	Lot	1				
42	88 amile 22/44 bit			-			
12 1	Marula 33/11 kV	Lot	1	<u> </u>			
12.1	Installation & Integration works Installation & testing of ADSS FO to Peer Link End	Lot	1				
12.2	mistaliauon a tesung of ADSS FO to Feet Link Ella		<u> </u>				
13	Kihoto 33/11 kV						
13.1	Installation & Integration works	Lot	1				
12.2	Installation & testing of ADSS FO to Peer Link End	Lot	1				
			-				

				24		_
14	Soilo 132/11 kV			ļ		
14.1	Installation & requisite Integration works	Lot	1	ļ		
			1		ļ	
15	Njoro 33/11 kV					
15.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
15.2	Installation & requisite Integration works	Lot	1			
16	Nyahururu 33/11 kV					
16.1	Installation & requisite Integration works	Lot	1			
17	Rongai 33/11 kV					
17.1	Installation & requisite Integration works	Lot	1			
18	Mwariki 33/11 kV					10 10 10 10 10 10 10 10 10 10 10 10 10 1
18.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
18.2	Installation & requisite Integration works	Lot	1			
19	Eldoret Depot 33/11 kV					
19.1	Installation & requisite Integration works	Lot	1			
20	Eldoret Industrial 33/11 kV					
20.1	Installation & requisite Integration works	Lot	1			
21	Kitale 33/11 kV					
21.1	Installation & requisite Integration works	Lot	1			
22	Kapsabet 33/11 kV					
22.1	Installation & requisite Integration works	Lot	1			
23	Turkwei 220kV					
23.1	Installation & comissioning works	Lot	1			
	b					
24	Homabay 33/11 kV					
24.1	Installation & requisite Integration works	Lot	1			
25	Muhoroni 33/11 kV					
25.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
25.2	Installation & requisite Integration works	Lot	1			
26	Orpower 11/220kV					
26.1	Installation & requisite Integration works	Lot	1			
27	Chepseon 33/11 kV					
27.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
27.2	Installation & requisite Integration works	Lot	1			
28	Kainuk/Sarmarch					

28.1	Installation approach cable & testing of OPGW FO to Peer Link End	Lot	1			
28.2	Installation & requisite Integration works	Lot	1			
29	Keroka 33/11 kV					
29.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
29.2	Installation & requisite Integration works	Lot	1			
30	Migori 33/11 kV			Ì		
30.1	Installation & testing of ADSS FO to Peer Link End	Lot	1			
30.2	Installation & requisite Integration works	Lot	1			
31	Webuye 132/33 kV					
31.2	Installation & requisite Integration works	Lot	1			
31	Mai Mahiu 33/11 kV					
31.2	Installation & requisite Integration works	Lot	1			
31.3	Installation & testing of ADSS FO to Peer Link End	Lot	1			
A	Western Region Substations / Power Stations Totals					
В	Test Tools Specifications					
1	Splicing Kit	No.	1			
2	Termination Kit	No.	1		 -	
3	Fault Locator	No.	1		1	
4	Optical Test Set	No.	1	-	-	
5	Rugged Test Laptops	No.	1		-	
		L	<u> </u>	<u> </u>	<u> </u>	ļ
В	Test Tools Specifications Totals					
С	Training - FO Terminal equipment					
1.1	week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation	Lot				
С	Training Totals					
D	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment					
1.1	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation) for FO terminal Equipment	Lot				

1.2	5 days at Manufacturers Premise for 2 KPLC staff ( excludes air travel & accomodation) for ADSS FO tests						
D	Participation of KPLC personnel in Fact	tory 1	ests	Totals			
		T	T	T			T
		<b>⊥</b>					1.
E	TOTAL (to Schedule No. 5. Grand Summary	·)					1.
E	TOTAL (to Schedule No. 5. Grand Summary	/)				2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
E		))				\$44	

# Schedule No. 5. Grand Summary

Schedule 5:Lot 3

ltem	Description		Total P	rice <sup>1</sup>
	· · · · · · · · · · · · · · · · · · ·		Foreign	Local
	Total Schedule No. 1. Plant, and Mandatory S Parts Supplied from Abroad	Spare		
mananchar Addan, 7 mar en y manandin y a	Total Schedule No. 2. Plant, and Mandatory S Parts Supplied from Within the Employer's C			
AAQU AQUITTE BATTANIAN BATT I TELATINIAN I T	Total Schedule No. 3. Design Services			
	Total Schedule No. 4. Installation and Other	Services		ke makitus adas sila 188 vito vito oso vito vito 1880 Vito 1880 - 1
		TOTAL (1	o Bid Form)	
	Na	me of Bidder		
		Signature of Bidder		

<sup>&</sup>lt;sup>1</sup> Specify currency in accordance with specifications in Bid Data Sheet under ITB 18.1 in Single Stage Bid, Create and use as many columns for Foreign Currency requirement as there are foreign currencies

# Schedule No. 6. Recommended Spare Parts

ltem	Description	Qıy.	Unit I	rice	Total Price	
	·	(1)	CIF or CIP (foreign parts)	EXW (local parts)	(1) x (2) or(3)	
ga maga mamarana ng gyunga yiga minga.		or de de compositor de composi	- 14 sekrelek ber-kerale alembesik alemakilik mildik sekralasiyan an am ani ancias P	"many many arrows and an emerge and an all an element may assure as a real assume.		
					**************************************	
		- 100				
	All programment diginal (spekert Alliand Allia) Allia (spekert Alliada) (spekert All	nder din der som som din die die die z	t	A		
		-beste ste ste ste fer ferbesska atm -residenteskeskeskeskeskeskeskesk fel till k				
The state of the s		rentritus etc. etc. etc. est encloseres com la encloselata alandational dal llar-	- 18 vir-Mahlandar-Budde-skuldarddalddalddalddaladda air e bendadiolda air estadau			
nadar landaka di landada kalanian aa ni 🖟 re landaran sa saban she aar aar aa ra					- Ay PA - Bar Park - Standard - Standard - Standard - Standard - Standard - Standard Standard	
	in ( chan chi 1995) o chan chan (Ben 1979) 경우 1989(1995) o chan (ben 1904) 아니는	to be and to be the effective test new and submer-			I MARTINE THE STREET,	
go ago gan ago						
the white or described the subsequential and the second of	edebasels also reference amb to assess as tribe - solvens whole and the secretarists as a solven depoint elementarists about a decretarist about the solvens and the solvens about the solvens about the solvens and the solvens about the solvens about the solvens about the solvens and the solvens about the s			should the air and air arts on to early record recommends and a secrete are secured.		
na aireadd lles-liwda -feliaethda air-	te remue des et e-lactor relitor blis des teles et broth foi arrest fore an ere activene a remue ve accamana a man a a a an a			-for-the and when advergerable vertical electric rich advisor day definition for the all	8 + 4557-147-164	
decemberates de abrese atres derime 🕻 minimizariorde e > 7 me d des a reserv	AN to the restrictive to territorium as servicio serviciologica sedestica estervicio for the relicional additional contractivo flore (Ad Florido representativo for		1kdarili- delt- vi-sa vila-vi-birishillar slandandarbil avi-sladdislandanda sla-is- 1	whom each is no via view ordermore minimize all all others remained our lie		
			Name of Bidder			
		Sig	nature of Bidder			

# D) <u>CHANGES HAVE BEEN MADE ON THE VARIOUS FORMS OF SECTION VI PART</u> 2. <u>EMPLYOYERS REQUIREMENTS AS LISTED BELOW;</u>

## 1 Chapter 1, Clause 1.3 Project Lots: Table 1-1 Summary of scope

							ry of scope				
		Indicati		Comma		nal list T		Fibre approx Length	Scada Installatio	Telecom ms	Existing Scada ii
No	Station	ons	Alarms	I.	ands	1	1	(km)	1	on	station
			<u> </u>			lairobi L		( constant	<u>r.                                    </u>	<u> </u>	
1	Doonholm 11kV						Fiber to Nairobi South with switches		No	yes	Siemen: SAS
2	Industrial 66/11kV	29	107	21	42	I .	Fiber to Nairobi South with switches	8	yes	yes '	RTU 560
3	Karen 66/11kV						Install MUX		No	yes	ABB SAS
4	Kikuyu 66/11kV	26	78	21	43	20	Install MUX		yes	yes	RTU 560
5	Limuru 66/11kV	8	18	4	4	2	Install MUX		yes	yes	Siemens SAS
6	Athi River ss 220/66kV	48	174	22	88	40	Install MUX		yes	yes	
7	Machakos 33/11kV	16	49	8	21	6	Install MUX		yes	yes	
В	Nairobi Airport 66/11kV	30	101	18	43		Fiber to Embakasi with switches				Siemens SAS
9	Nairobi West						Fiber to Embakasi available			yes	RTU 560
10	Nyaga 33/11kV	18	28	13	30		Install FO switches	20	yes	yes	
11	Dandora 220kV						OPGW to Nairobi North	50		yes	
12	Cathedral						Install SDH Mux			yes	
13	Nairobi North	10	20	8	8		OPGW to Dandora	50	Yes	Yes	RTU 560
14	EPZ						Install FO switches		yes	yes	RTU 560
15	Tana						Install SDH Mux			yes	RTU 560
Mou	ınt Kenya Lot 1										
l	Embu East						Install FO Switches		no	Yes	SAS Exist

2	Embu 33/11 kV	22	83	15	36	20	Install FO	9		Yes	
2	Karatina	22	83	15	36	20	Fiber to Kiganjo		yes	res	
3	33/11 kV	30	69	13	31	16	+ FO switches	20	yes	Yes	
	!	78.7.5		100			Fiber to				
	Kerugoya						Karatina +FO				
4	33/11 kV	13	35	6	16	10	switches	20	yes	Yes	1-
	Nanyuki 33/11	-					Install FO				
5	kV	14	42	7	20	10	switches	ļ	yes	Yes	
	Kinoru/Meru						Install FO				
6	33/11 kV	19	65	12	32	16	switches	<u> </u>	yes	Yes	
							Install FO				
7	Othaya 33/11	36	65	12	20	1.0	switches +FO	25			
7	kV	26	65	12	29	14	to Ruringu	25	yes	Yes	
		C.									
	Kiganjo 33/11						Fiber to Kiganjo	<b>X</b>			ABB
8	+	22	61	11	27	12	+ FO switches	7	yes	Yes	RTU560
_	Kamburu 220						Opgw to				
9	kV	-	+		-		Kiambere	40	+	yes	
							OPGW to Kamburu 220				
							Install Mux,				
	l l						Distance				ABB
10	Kiambere 220						Protection	40		yes	RTU560
	Kindaruma		+	1	1			-	10	,	1110300
11	1	14	42	7	20	10			yes	Yes	ļ
	Kiganjo 132										
	Capacitor										ABB
12	_	16	32	12	16				yes		RTU560
	Nanyuki 132										
	Capacitor										ABB
13	+	16	32	12	16				yes		RTU560
	Meru 132										4.55
14	Capacitor banks	16	32	12	16				1105		ABB RTU560
14	Daliks	10	32	12	10	-		-	yes		10360
	st Lot 2	<u> </u>	_1							1	
Loa	st Lot 2		Т	1				ī		1	
			+	-	-		Fiber to				+
							Mwambungo +				
ì	Msambweni	12	24	10	13	2	-	15	yes	yes	
				10	1	-			703	703	_
							Fiber to Galu				
,	Mwabungo	10	22		12		132kV+ FO	-			
2	-	10	22	9	13	2	switches	5	yes	yes	
	New Bamburi + 33kV									Š	ABB
3	1	16	32	12	16		Install MUX		VOS	MOS	ABB RTU560
	. caccors		7-	12	10		Fibre From		yes	yes	1410200
							Bamburi+ FO				-
1	Kanamai	8	22	8	10	2	switches		yes	yes	
							Fiber to			1	
							Malindi 132				
	Watamu	7	22	8	10	2	+FO switches	20	yes	yes	
							Fiber to				
							I .	4			
5	Mariakani 33/11kV	6	14	7	9	2	Mariakani 132	5	yes		

	Malindi	]	Ī				Migrate RTU				АВВ
7	33/11kV	10	24	9	12	2	and Mux		Yes	yes	RTU560
	50,22	-				_	Fibre From	1		7.03	1110300
	Utange 33/ 11						Bamburi + FO				
В	kV SS	10	24	9	12	2	switches		ves	yes	
_	Shanzu 33/ 11	_	2-4		12		Install FO	+	yes	yes	
9	kV SS					[	switches		No	yes	Areva
	K V 33						SWITCHES	-	140	yes	ABB
10	Kilifi 33/11	40	118	24	26	4	Install Mux		yes	no	RTU560
	KIIII 35/11	10	110	27	20	_{	Fibre From	-	763		K10300
	 Kikambala 33/		ĺ				bamburi + FO				
11		10	24	9	12	2	switches		yes	yes	
	II VA	10	27	-  -	12	2	Fibre From t-	1	yes	yes	<u> </u>
	Mombasa						off + FO				
12		8	22	8	10	2	switches	5			
	cement	0	- 22	0	10	2	PMICUES	5	yes	yes	
						600	Integrate				
		28	44	22	28	2	systems	_	Yes	yes	
	Mtito 132						Integrate				ABB
14	reactors	16	32	12	16		systems		yes		RTU560
	Kiboko 132kV						Integrate				ABB
15	reactors	16	32	12	16		systems		yes		RTU560
	Rabai 220kV						Integrate				ABB
16	reactors	16	32	12	16		systems		yes		RTU560
Most	ern Kenya L	OT 3	1								
, vest	eriikeliya L			1		1		1			1
						_			_		
	Kakamega										
	33/11kV	20	50	20	24	4	Install MUX		yes	yes	
	Kericho							1	,		
	33/11kV	23	65	12	32	4	Install MUX		yes	yes	
			-			1	Fiber to	1	700	7.00	
	lkongo 22/11						Chemosit+FO				
	lkonge 33/11 kV	16	42	7	25	4	switches	15			
	KV	10	42	-/-	25	- 4	switches	15	yes	yes	
	v:			4.0	4.2				2.2221	31.384	
4	Kisii 33/11kV	27	99	19	43	4	Install MUX	-	yes	yes	
	Kisumu East					İ	Install FO				
5	3 <b>3/11kV</b>	25	73	14	33	4	switches		yes	yes	
	·									,	
	Mogogosiek	2.4	60	4.5	2.4		install FO		A 100 UT	2007.00	
6	33/11kV	24	69	13	31	4	switches	-	yes	yes	
	Obote Rd						Install FO				
7	3 <b>3/11kV</b>	28	107	21	42	4	switches		yes	yes	
	Olkalau		1		-		Install FQ		1	ĺ	
		12	3.0	_	10	0		1			
8	3 <b>3/11kV</b>	12	38	6	18	8	switches		yes	yes	
i				i			Fiber to				
	Cheptulu						mbale+FO				
9	33/11kv	9	33	8	13	0	switches	20	yes	yes	
	Elburgon						Install FO				
	33/11kV	9	25	7	15	4	switches		yes	yes	
	<del>-</del> -		1				Fiber				
	Matundura33						naivahsa+FO				
- 1	/11kV	12	30	6	14	4	switches	30	yes	yes	
			<del>                                     </del>	Ť	-	-	Fiber		,	, ==	
	Marula						naivahsa+FO				
1	33/11kV	27	68	18	22	2	switches	20	yes	yes	
14	-OLTIVA	۷,	100	10	22	_	DANITCHES	12.0	763	yes	

			T	T			Fiber	T	T	-T-	Т-
	Kihoto SS						naivahsa+FO				
	33/11kV	14	32	6	12	2	switches	20	ves	ves	
_	Soilo 33kV			1					1	,	
14	bays	37	73	29	14	6	existing		yes	yes	
					310					100	
	Nakuru Depot										
	33/11kV	29	119	35	43	4	Existing		yes	no	
							Fiber to Soilo +				
16	Njoro 33/11kV	12	22	8	12	2	FO switches	15	yes	yes	
						-				100	
	Nicologia						Fiber to				
	Nyahururu 33/11kV	26	60	18	22	o	Rumuruti+ Mux		yes	yes	
		20	00	10				-	yes	74.5	
	Rongai	10	27	-	10	6	Fiber to Soilo+ FO switches				
10	33/11kV	10	27	6	10	Р	Fiber to Nakuru	-	yes	yes	+
	Mwariki						depot + FO				
	33/11kV	6	24	6	8	8	switches	10	yes	yes	
		V.								1	
	F1-1										
	Eldoret Depot 33/11kV	29	119	35	43	4	Mux required		yes	yes	
	<u>.</u>	23	113	33	43	- [*	wax required		yes	yes	-
	Eldoret										
	Industrial						Install FO				
21	33/11kV	25	99	19	37	26	switches		yes	yes	
							Install FO				
22	Kitale 33/11kV	20	30	10	18	4	switches		yes	yes	$\perp$
	Kapsabet										
23	33/11kV	12	38	6	18	8	FO Switch		yes	yes	
	Turkwel						Install power				
24	11/220kV	18	81	8	15	2	line carrier		Yes	Yes	
											Expand
	Muhoroni						Fiber to Soilo+				existing
25	33/11kV	12	38	6	18	12		15	Yes	Yes	RTU 560
			1				Install fiber to				
26	Chepseon							40		Yes	Siemens
20	Сперасоп	7	+		-		Kericilo	70		162	Siemens
						4	L				
- 1	Keroka		20	-	1.0		Fiber to kegati+				
	33/11kV	12	38	6	18	4		25	Yes	Yes	
- 1	Migori						Fiber to Uririi+	,			
28	33/11kV	12	38	6	18	4		20	Yes	Yes	
İ	11am-5						Fiber to				
	Homabay 33/11kV	12	38	6	18	4	Sondui+ FO switches		Yes	Vac	
<del></del>		12	50	0	10		Switches		162	Yes	
	Webuye 132kV	12	38	6	18	4	Install Mux		Yes	Yes	
30	TJCKA	12	20	U	10	-7			1.62	162	
							Install				
	Kainuk/						approach cable			2000	ABB
31	Sarmarch			ingu.		-0	+odf		no	yes	RTU560
	O- D	1.4	22		1.3						ABB
34	Or Power	14	32	6	12	4	available Fiber to		yes	yes	RTU560
		1	1	1							
	Mai Mahiu		1		1		Naivasha + FO				

Kisumu 33kV Capacitors	16	32	12	16	available	yes	no	Expand existing RTU 560
Musaga 132kV reactors	16	32	12	16	available	Yes	no	Expand existing RTU 560
Kegati 33kV capacitors	16	32	12	16	available	yes	no	ABB RTU560
Eldoret 33kV capacitors	16	32	12	16	available	yes	no	ABB RTU560
Lanet 33kV capacitors	16	32	12	16	available	yes	no	ABB RTU560
Chemosit 33kV capacitors	16	32	12	16	available	yes	no	ABB RTU560

## 2 Clause 1.7.5: Project Managers Facilities

The whole clause has been deleted from the scope

## 3 Chapter 2, Clause 1.8.2.2:Table 2-4 Scope of RTUs and Data

Table 2.4: Scope of RTUs and Data

Region	Station	Indica tions	Alarms	Comma nds	Measura nds	Energy Meter Inputs	RTU available
Nairobi							
1	Industrial 66/11kV	29	107	21	42	36	RTU 560
2	Kikuyu 66/11kV	26	78	21	43	20	RTU 560
3	Limuru 66/11kV	20	30	15	10	4	Siemens
4	Machakos 33/11kV	16	49	8	21	6	
5	Nairobi West 66/11kV	48	174	22	88	40	RTU 560
6	Nyaga 33/11kV	18	28	13	30	2	
7	Cathedral 66/11kV	24	88	15	25	4	
8	Athiriver 220/66 kV	16	49	8	21	6	
9	Dandora-Nairobi North	Opgw					RTU 560
Coast		-					
1	Msambweni	12	24	10	13	2	
2	Mwabungo 33/11kV	10	22	9	13	2	
3	Kanamai	8	22	8	10	2	
4	Watamu	7	22	8	10	2	
5	Mariakani 33/11kV	6	14	7	9	2	
6	Utange 33/11 kV SS	10	24	9	12	2	
7	Kilifi 33/11kV	40	118	24	26		RTU 560
8	Kikambala 33/11 kV SS	10	24	9	12	2	
9	Voi 132/ 33 kV	16	32	12	16		
10	Rabai 220kV reactors	16	32	12	16		RTU 560
11	Mtito Reactors	16	32	12	16		RTU 560
12	Kiboko reactors	8	16	6	8		RTU 560

13	New Bamburi reactors	16	32	12	16		RTU 560
	- 1						
Mount							
Kenya	12 1 22/11/12		02		25		
1	Embu 33/11 kV	22	83	15	36	20	
2	Karatina 33/11 kV	30	69	13	31	16	
3	Kerugoya 33/11 kV	13	35	6	16	10	
4	Nanyuki 33/11 kV	14	42	7	20	10	
5	Kinoru/Meru 33/11 kV	19	65	12	32	16	
6	Othaya 33/11 kV	26	65	12	29	14	
7	Kiganjo 33/11 kV	22	61	11	27	12	
8	Kindaruma 11/132kV	11	34	5	19	8	
9	Kiganjo 33 kV capacitors	16	32	12	16		RTU 560
10	Nanyuki 33 kV capacitors	16	32	12	16		RTU 560
11	Meru 132 kV reactors	16	32	12	16		RTU 560
12	Kiambere 220 kV reactors	16	32	12	16		RTU 560
13	Kiambere 220/33/11	Opgw					
Western							
Kenya 1	V alcamaga 22/111/1/	20	50	20	24	8	
	Kakamega 33/11kV  Kericho 33/11kV				24		
2		23	65	12	32	16	
3	Ikonge 33/11kV	16	42	7	25	14	
4	Kisii 33/11kV	27	99	19	43	30	
5	Mogogosiek 33/11kV	24	69	13	31	14	
6	Kisumu East 33/11kV	25	73	14	33	16	
7	Obote Rd 33/11kV	28	107	21	42	32	
8	Olkalau 33/11kV	12	38	6	18	8	
9	Cheptulu 33/11kv	9	33	8	13	8	
10	Elburgon 33/11kV	9	25	7	15	10	
11	Matundura 33/11kV	12	30	6	14	12	
12	Marula 33/11kV	27	68	18	22	0	
13	Kihoto SS 33/11kV	14	32	6	12	0	
14	Soilo 132/11kV	37	73	29	14	16	
15	Nakuru Depot 33/11kV	29	119	35	43	0	
16	Njoro 33/11kV	12	22	8	12	0	
17	Nyahururu 33/11kV	26	60	18	22	0	
18	Rongai 33/11kV	10	27	6	10	6	
19	Mwariki 33/11kV	6	24	6	8	8	
20	Eldoret Depot 33/11kV	29	119	35	43	0	
21	Eldoret Industrial 33/11kV	25	99	19	37	26	
22	Kitale 33/11kV	12	30	6	14	12	
23	Muhoroni 33/11 kV	10	21	5	10	4	RTU 560
24	Webuye 132/33 kV	10	27	6	10	6	
25	Kapsabet 33/11kV	12	38	6	18	8	
26	Turkwel 11/220kV	38	100	12	35	4	RTU 560
27	Chepseon 33/11 kV						Siemens
28	Orpower 11/220kV	23	78	18	30	4	RTU560
29	Mai Mahiu 66/11 kV	12	38	6	18	8	

30	Migori 33/11 kV	10	21	5	10	4	
31	Homabay 33/11 kV	6	24	6	8	8	
32	Keroka 33/11 kV	10	27	6	10	6	
33	Kisumu 33 kV capacitors	16	32	12	16		RTU 560
34	Chemosit 33 kV capasitors	16	32	12	16		RTU 560
35	Kisii 33 kV capacitors	16	32	12	16		RTU 560
36	Eldoret 33 kV capacitors	16	32	12	16		RTU 560
37	Lanet 33 kV capacitors	16	32	12	16		RTU 560
38	Musaga 132 kV reactors	16	32	12	16		RTU 560

## Table 2-5 Existing RTUs in scope

**Table 2-5** below is a List of stations with existing RTU which may be re-used and/ expanded to accommodate additional station data

Table 0-5: Existing RTUs in the scope

Region	Station	Data Acquisition protocol	RTU Type
NAIROBI	Industrial 66/11kV	Direct process interface	RTU 560 – ABB
	Kikuyu 66/11kV	Direct process interface	RTU 560 – ABB
	Nairobi West 66/11kV	Direct process interface	RTU 560 – ABB
	EPZ 66/33, 66/11kV	Direct process interface	RTU 560 – ABB
	Limuru 66/11kV	IEC 61850	Sicam SAS- Siemens
COAST	Malindi 33/11kV	Direct process interface	RTU 560 – ABB
	New Bamburi 33/11kV	Direct process interface	RTU 560 – ABB
	Kilifi 33/11kV	Direct process interface	RTU 560 – ABB
	Kiboko 132/33 kV	Direct process interface	RTU 560 – ABB
	Mtito 132/33 kV	Direct process interface	RTU 560 – ABB
WEST KENYA	Kisumu 132/33kV	Direct process interface	RTU 560 – ABB
	Chemosit 132/33 kV	Direct process interface	RTU 560 – ABB
1.000	Eldoret 132/33 kV	Direct process interface	RTU 560 – ABB
	Kisii 132/33 kV	Direct process interface	RTU 560 – ABB
	Lanet 132/33 kV	Direct process interface	RTU 560 – ABB
Mt. KENYA	Kiganjo 132/33kV	Direct process interface	RTU 560 – ABB
	Nanyuki 132/33 kV	Direct process interface	RTU 560 – ABB
	Meru 132/33 kV	Direct process interface	RTU 560 – ABB
	Kiambere 132/33 kV	Direct process interface	RTU 560 – ABB

# 4 Chapter 3, Clause 1.11.1:Table 3-1

Table 3-1

	Station	Link End SS	Approx	Link	Proposed Link
			Link	Available	Equipment
			Distance		
			(kms)		
	NAIROBI REGION - ST	ATIONS CONNEC	TED TO NCC		•
			_		
1.	Donholm 11kV	NAIROBI	6	YES	Switches
		SOUTH			
2.	Industrial 66/11kV	NAIROBI	8	NO	Switches
		SOUTH			
3.	Karen 66/11kV	NAIROBI WEST	14	YES	Multiplexer
4.	Limuru 66/11kV	NAIROBI	15	YES	Switches
		NORTH			
5.	Athi River 220/66 kV	EMBAKASSI	26	No	Multiplexer
6.	Machakos 33/11kV	EMBAKASSI	61	YES	Multiplexer
7.	Nairobi Airport 66/11kV	EMBAKASSI	10	YES	Switches
8.	Nyaga 33/11kV	RUIRU SS	15	NO	Switches
9.	Dandora	NAIROBI North	50	No	Exist
10.	EPZ	ATHI RIVER SS	3	YES	Switches
11	Dandora-Nairobi North	50km OPGW			
	COAST REGION - STAT	TIONS CONNECTE	D TO RABA	RCC	
10.	Msambweni 33/11kV	Mwabungo	20	NO	Switches
		33/11kV			
11.	Mwabungo 33/11kV	GALU SS	5	NO	Switches
12.	Kanamai 33/11 kV SS	NEW BAMBURI	18	Yes	Switches
13.	Watamu 33/11kV	KAKUYUNI SS	15	Yes	Switches
15.	Malindi 33/11kV	KAKUYUNI SS	30	YES	Multiplexer

16.	Utange 33/11 kV SS	NEW BAMBURI	12	Yes	Switches
17.	Shanzu 33/11kV	NEW BAMBURI	5	YES	Switches
18.	Mombasa Cement 33/11 kV SS	3 –way splice box	4	NO	Switches
	MT KENYA REGION – S	STATIONS CONNE	CTED TO	KIGANJO R	CC
19.	Embu East SS	KUTUS SS	15	YES	Switches
20.	Embu 33/11kV	KUTUS SS	25	Yes	Switches
20.	Elilou 35/11KV	K010333	23	103	Switches
21.	Karatina SS	KIGANJO 132	25	NO	Switches
22.	Kerugoya SS	KARATINA SS	20	NO	Switches
24.	Meru 33/11kV	MERU 132	8	YES	Switches
25.	Othaya 33/11kV	RURINGU SS	21	NO	Switches
27	Kiambere-Kamburu	40 km OPGW	40	NO	OLTE
	WEST KENYA REGION	- STATIONS CONN	ECTED 1	O LESSOS R	CC
27.	Kakamega 33/11kV	MUSAGA SS	22	YES	Multiplexer
28.	Kericho 33/11kV	CHEMOSIT SS	25	YES	Multiplexer
30.	Kisii 33/11kV	KISII 132	18	YES	Switches
31.	Kisumu East 33/11kV	KISUMU 132	16	Yes	Switches
32.	Obote Rd 33/11kV	KISUMU 132	4	YES	Multiplexer
33.	Elburgon 33/11kV	SOILO SS	10	Yes	Switches
35.	Soilo	LANET SS	33	YES	Multiplexer
36.	Njoro 33/11 kV SS	SOILO SS	15	NO	Switches
37.	Nyahururu 33 /11 kV	RUMURUTI SS	35	NO	Switches
38.	Rongai 33/11 kV SS	SOILO SS	5	Yes	Switches
39.	Mwariki 33/11 kV SS	NAKURU DEPOT	5	NO	Switches
40.	Eldoret Industrial 33/11kV	RIVATEX	8	Yes	Switches

41.	Kitale 33/11kV	KITALE 132	20	Yes	Multiplexer
42.	Kapsabet 33/11kV	LESSOS	20	YES	Switches
43.	Turkwel220 kV	LESSOS	230	NO	ETL 600 PLC Terminal Eqpt
44	Chepseon 33/11 kV	Kericho 33/11 kV	40	No	Switches
45	Mogogosiek 33/11 kV	Chemosit 132/33	18	Yes	Switches
46	Ikonge 33/11 kV	Chemosit 132/33	20	No	Switches
47	Keroka 33/11 kV	Sotik 132/33 kV	25	No	Switches
48	Migori 33/11 kV	Awendo 132/33 kV	17	No	Switches
49	Homabay 33/11 kV	Sondu Miriu	50	Yes	Switches
50	Muhoroni 33/11 kV	Muhoroni 132/33kV	15	No	Switches
51	Cheptulu 33/11kV	Mbale	20	No	Switches
52	Webuye 132/33 kV	Musaga 132/33 kV	18	Yes	Multiplexer
53	Mai Mahiu 66/11 kV	Naivasha 132 kV	20	No	Switches
54	Kihoto 33/11 kV	Naivassa 132 kV	15	Yes	Switches
55	Marula 33/11 kV	Naivasha 132 kV	20	No	Switches
56	Matundura 33/11 kV	Naivasha 132 kV	30	No	Switches
57	Ol kalou 33/11 kV	Lanet 123 kV	30	Yes	Switches

#### Clause 1.11.2.2Table 3-2 Estimated distances

Table 3-2 Estimated Distances

REGION	DISTRIBUTION STATION	ORIGIN	APPROXIMATE DISTANCE (KM)
Nairobi	Industrial SS	Nairobi South SS	8
	Nyaga 33/11 SS	Ruiru S/S	15
opgw	Dandora	Nairobi North	50
		SUB TOTAL	73
Coast	Msambweni 33/11 kV	Mwabungo 33/11 kV	20
	Mwabungo 33/11kV	Galu SS	5
	Watamu 33/11kV	Kakuyuni SS	15
	New Bamburi 132	Rabai SS	35
	Mombasa cement	3-Way	5
	Mariakani 33	Mariakani 132	4
		SUB TOTAL	84
Mt Kenya	Karatina SS	Kiganjo 132	25
	Kerugoya SS	Karatina SS	20
	Othaya 33/11kV	Ruringu SS	21
opgw	Kamburu	Kiambere	40
		SUB TOTAL	106
West Kenya	Nyahururu 33/11kV	Rumuruti SS	33
	Rongai SS	Soilo SS	5
	Mwariki SS	Nakuru Depot	5
	Mai mahiu SS	Naivasha 132	20
	Marula SS	Naivasha 132	20
	Matundura SS	Naivasha 132	30
	Njoro SS	Soilo SS	20
	Chepseon SS	Kericho SS	40
	Ikonge SS	Chemosit SS	18
	Keroka SS	Sotik SS	25
	Migori SS	Uriri	18
	Muhoroni 33	Muhoroni 132	15
	Cheptulu SS	Mbale office	20
		SUB TOTAL	269
		TOTAL	459

## Clause 1.11.2.2 Table 3-3 Distribution of ODF

Table 3-3 Distribution of ODF's

REGION	DISTRIBUTION/Transmi STATION	ORIGIN	48 Port ODFs
Nairobi	Industrial SS	Nairobi South SS	2
-	Nyaga 33/11 SS	Ruiru S/S	2
	Dandora	Nairobi North	4
		SUB TOTAL	8
Coast	Msambweni 33/11 kV	Mwabungo 33/11 kV	2
	Mwabungo 33/11kV	Galu SS	2
	Watamu 33/11kV	Kakuyuni SS	2
	New Bamburi 132	Rabai SS	2
	Mombasa cement	3Way	2
	Mariakani 33	Mariakani 132	2
		SUB TOTAL	12
Mt Kenya	Karatina SS	Kiganjo 132	2
	Kerugoya SS	Karatina SS	2
	Othaya 33/11kV	Ruringu SS	2
	Kamburu	Kiambere	2
		SUB TOTAL	8
West Kenya	Nyahururu 33/11kV	RumurutiSS	2
	Rongai SS	Soilo SS	2
	Mwariki SS	Nakuru Depot	2
	Mai mahiu SS	Naivasha 132	2
	Marula SS	Naivasha 132	2
	Matundura SS	Naivasha 132	2
	Njoro SS	Soilo SS	2
	Chepseon SS	Kericho SS	2
	Ikonge SS	Chemosit SS	2
	Keroka SS	Sotik SS	2
	Migori SS	Uriri	2
	Muhoroni 33	Muhoroni 132	2
	Cheptulu SS	Mbale office	2
		SUB TOTAL	26
<del></del>		TOTAL	54

## Clause 1.11.2.2Table 7 Proposed link Equipment

Table 7 below gives direction of the equipment required at each node.

Table 7 Proposed Link Equipment

	Station Link End SS		Proposed Link Equipment
	Station	Blink Blid 55	1 Toposed Eline Equipment
	NAIROBI REGION – ST	ATIONS CONNECTED T	TO NCC
1.	Donholm 11kV	NAIROBI SOUTH	Switches
2.	Industrial 66/11kV	NAIROBI SOUTH	Switches
3.	Karen 66/11kV	NAIROBI WEST	Multiplexer
4.	Limuru 66/11kV	NAIROBI NORTH	Switches
5.	Athi River 220/66kV	EMBAKASSI	Multiplexer
6.	Machakos 33/11kV	EMBAKASSI	Multiplexer
7.	Nairobi Airport 66/11kV	EMBAKASSI	Switches
8.	Nyaga 33/11kV	RUIRU SS	Switches
9.	Cathedral	Nairobi west	Multiplexer
10.	EPZ	ATHI RIVER SS	Switches
11	Tana 11/66 kV	Juja 132/66 kV	Multiplexer
12	Kikuyu 66/11 kV		Switches
13	Nairobi west	Embakasi	Multiplexer
	COAST REGION – STA	TIONS CONNECTED TO	RABAI RCC
14.	Msambweni 33/ 11kV	Mwabungo 33/11kV	Switches
15.	Mwabungo 33/11kV	GALU SS	Switches
16.	Kanamai 33/11 kV SS	NEW BAMBURI	Switches
17.	Watamu 33/11kV	KAKUYUNI SS	Switches
18.	Kilifi 33/11kV	NEW BAMBURI	Multiplexer
19.	Malindi 33/11kV	KAKUYUNI SS	Multiplexer

20.	Utange 33/11 kV SS	NEW BAMBURI	Switches
21.	Shanzu 33/11kV	NEW BAMBURI	Switches
22.	NEW BAMBURI	RABAI SS	Multiplexer
23.	Mariakani 33/11 kV	Mariakani 132	Switches
24.	Voi 132	Rabai SS	Multiplexer
25.	Mombasa cement	NEW BAMBURI	switches
26.	Kikambala	NEW BAMBURI	switches
	MT KENYA REGION - S	TATIONS CONNECTED TO	) KIGANJO RCC
27.	Embu East SS	KUTUS SS	Switches
28.	Embu 33/11kV	KUTUS SS	Switches
29.	Karatina SS	KIGANJO 132	Switches
30.	Kerugoya SS	KARATINA SS	Switches
31.	Kiganjo 33/11KV	KIGANJO 132	Switches
32.	Meru 33/11kV	MERU 132	Switches
33.	Othaya 33/11kV	RURINGU SS	Switches
34.	Nanyuki 33	Nanyuki 132	Switches
	WEST KENYA REGION	- STATIONS CONNECTED	TO LESSOS RCC
27.	Kakamega 33/11kV	MUSAGA SS	Multiplexer
28.	Kericho 33/11kV	CHEMOSIT SS	Multiplexer
	Cheptulu	Kisumu 132	Switches
30.	Kisii 33/11kV	KISII 132	Switches
31.	Kisumu East 33/11kV	KISUMU 132	Switches
32.	Obote Rd 33/11kV	KISUMU 132	Multiplexer
33.	Elburgon 33/11kV	SOILO SS	Switches

	T	T	Table
34.	Matundura 33/11kV	LANET SS	Multiplexer
35.	Soilo	LANET SS	Multiplexer
36.	Njoro 33/11 kV SS	SOILO SS	Switches
37.	Nyahururu 33 /11 kV	RUMURUTI SS	Switches
38.	Rongai 33/11 kV SS	SOILO SS	Switches
39.	Mwariki 33/11 kV SS	NAKURU DEPOT	Switches
40.	Eldoret Industrial 33/11kV	RIVATEX	Switches
41.	Kitale 33/11kV	KITALE 132	Switches
42.	Kapsabet 33/11kV	LESSOS	Switches
43	Kihoto 33/11 kV	Naivasha 132 kV	Switches
44	Chepseon 33/11 kV	Kericho 33 kV	Switches
45	Kericho 33/11 kV	Chemost 132 kV	Multiplexer
46	Mogogosiek 33/11 kV	Chemosit 132 kV	Switches
47	Ikonge 33/11 kV	Chemosit 132 kV	Switches
48	Keroka 33/11 kV	Sotik 132 kV	Switches
49	Migori 33/11 kV	Awendo 132 kV	Switches
50	Homabay 33/11 kV	Sondu Miriu	Switches
51	Muhoroni 33/11 kV	Muhoroni 132 kV	Switches
52.	Turkwel 220 kV	LESSOS	PLC Terminal Equipment
	·	1	<u> </u>

#### Clause 1.12 Radios

The whole clause has been deleted from scope

## 5 Chapter 4, Clause 1.13.1 General remarks

Kenya Power uses -48 VDC Supplies for its Scada and telecommunication sites across the country.

Clause 1.13.3.9.1Dual Charger, single battery system

#### 1.13.3.9.1 Charger, Battery System

Charging system shall have one charger with specifications as indicated in 3.9.1

- a) The charger unit shall be capable of supplying the initial charging requirements, boost—charging the battery subsequent to an emergency discharge and supplying the maximum load whilst on float.
- b) The charger and battery sets shall be interconnected to ensure full redundancy as shown in fig. 4.2.3.9.1:

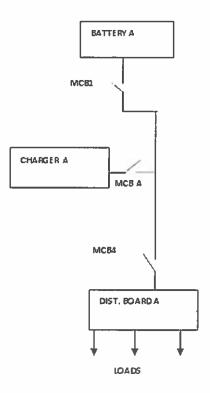


Figure 0-1

- c) The charger shall connect to its own DC distribution Board with capacity to connect all loads and spares as specified elsewhere in this specification.
- d) The charger shall have its output protected by an MCB which shall trip in event of a major internal fault in the charger.
- e) The normal operation shall be MCBA, MCB 1, MCB4 shall be closed.
- f) In event of a fault in a battery bank, its MCB shall trip. Each trip shall generate a battery faulty alarm and pick a dry alarm contact.

The chargers shall have Event controlled charge such that the event in cl 4.6.2, i shall set a charge mode to accommodate two battery banks.

g) Each charger shall be capable to charge and monitor the two battery sets in parallel.

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- h) Rectifier spare capacity shall be as spelled in cl. 4.9.1 (a) for each charger.
- i) Each battery bank shall be designed for full load standby as specified elsewhere in this specification.
- j) The supplier may submit design proposals, showing how to achieve the required redundancy for both systems.

## Clause 1.13.3.9.2 Dual Charger, dual battery system

The whole clause has been deleted from scope

Yours faithfully,

For: KENYA POWER & LIGHTING COMPANY LIMITED.

Eng. MICHAEL ADMAMBO

MANAGER-PROJECTS DEVELOPMENT

