

	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	SCADA Equipment at Substations						
A.	Nairobi Region Substations						
1	Industrial 66/11 kV						
1.1	extension / re-use existng 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				
2	Kikuyu 66/11 kV						
2.1	extension / re-use existng 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				
3	Machakos 33/11 kV						
3.1	extension / re-use existng RTU	N°.	1				
3.2	Equipment and material for adaptation works	Lot	1				
3.3	48 V-DC Power Supply	Lot	1				
3.4	Integration to the Scada Central system	Lot	1				
4	Nairobi West 66/11kV						
4.1	extension / re-use existng RTU	N°.	1				
4.2	Equipment and material for adaptation works	Lot	1				
4.3	Integration to the Scada Central system	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					
5.4	Integration to the Scada Central system	Lot	1				
6	Limuru 66/11 kV						
6.1	extension / re-use existng 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				
7	Steel Billets 66/11 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	Lot	1				
7.4	Integration to the Scada Central system	Lot	1				
8	EPZ 66/11 kV						
8.1	extension / re-use existng 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				

9	Mai Mahiu 66/11 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					
A	Nairobi Region Substations / Power Stations Totals							
B	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	Lot	1					
1.4	Integration to the Scada Central system	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	Lot	1					
2.4	Integration to the Scada Central system	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	Lot	1					
3.4	Integration to the Scada Central system	Lot	1					
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	Lot	1					
4.4	Integration to the Scada Central system	Lot	1					
5	Kaloleni 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					
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	Lot	1					
6.4	Integration to the Scada Central system	Lot	1					
7	Mbaraki 33/11 kV							
7.1	extension / re-use existing 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					

B	Coastal Region Substations / Power Stations Totals							
C.	Western Region Substations / Power Stations							
1	<i>Kisumu 132/33 kV</i>							
1.1	extension / re-use existing 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					
2	<i>Kisumu East 33/11 kV</i>							
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	Lot	1					
2.4	Integration to the Scada Central system	Lot	1					
3	<i>Kakamega 33/11 kV</i>							
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	Lot	1					
3.4	Integration to the Scada Central system	Lot	1					
4	<i>Kericho. 33/11 kV</i>							
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	Lot	1					
4.4	Integration to the Scada Central system	Lot	1					
5	<i>Kisian 33/11 kV</i>							
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					
6	<i>Kisii 33/11 kV</i>							
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	Lot	1					
6.4	Integration to the Scada Central system	Lot	1					
7	<i>Mogogosiek 33/11 kV</i>							
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					
8	<i>Obote Rd 33/11 kV</i>							
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				
9	Sotik 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				
10	Cheptulu 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				
11	Elburgon 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	Lot	1				
11.4	Integration to the Scada Central system	Lot	1				
12	Gilgil 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	Lot	1				
12.4	Integration to the Scada Central system	Lot	1				
13	Marula 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	Lot	1				
13.4	Integration to the Scada Central system	Lot	1				
14	Kihoto 33/11 kV						
14.1	New Remote Terminal Unit (RTU)	N°.	1				
14.2	Equipment and material for adaptation works	Lot	1				
14.3	48 V-DC Power Supply	Lot	1				
14.4	Integration to the Scada Central system	Lot	1				
15	Soilo 132/11 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	Lot	2				
15.4	Integration to the Scada Central system	Lot	1				
16	Nakuru Depot 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	Lot	1				
16.4	Integration to the Scada Central system	Lot	1				
17	Njoro 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	Lot	1				

17.4	Integration to the Scada Central system	Lot	1				
18	<i>Nyahururu 33/11 kV</i>						
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	Lot	1				
18.4	Integration to the Scada Central system	Lot	1				
19	<i>Rongai 33/11 kV</i>						
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	Lot	1				
19.4	Integration to the Scada Central system	Lot	1				
20	<i>Mwariki 33/11 kV</i>						
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	Lot	1				
20.4	Integration to the Scada Central system	Lot	1				
21	<i>Eldoret Depot 33/11 kV</i>						
21.2	New Remote Terminal Unit (RTU)	N°.	1				
21.3	Equipment and material for adaptation works	Lot	1				
21.4	48 V-DC Power Supply	Lot	1				
21.4	Integration to the Scada Central system	Lot	1				
22	<i>Eldoret Industrial 33/11 kV</i>						
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	Lot	1				
22.4	Integration to the Scada Central system	Lot	1				
23	<i>Kitale 33/11 kV</i>						
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	Lot	1				
23.4	Integration to the Scada Central system	Lot	1				
24	<i>Kapsabet 33/11 kV</i>						
24.1	New Remote Terminal Unit (RTU)	N°.	1				
24.2	Equipment and material for adaptation works	Lot	1				
24.3	48 V-DC Power Supply	Lot	1				
24.4	Integration to the Scada Central system	Lot	1				
25	<i>Turkwel 11/220kV</i>						
25.1	extension / re-use existing RTU	N°.	1				
25.2	Equipment and material for adaptation works	Lot	1				
25.3	48 V-DC Power Supply	Lot	1				
25.4	Integration to the Scada Central system	Lot	1				
C	Western Region Substations / Power Stations Totals						
D	Mount Kenya Region Substations / Power Stations						

1	Embu 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	Lot	1				
1.4	Integration to the Scada Central system	Lot	1				
2	Karatina 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	Lot	1				
2.4	Integration to the Scada Central system	Lot	1				
3	Kerugoya 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	Lot	1				
3.4	Integration to the Scada Central system	Lot	1				
4	Nanyuki 33/11 kV						
4.1	New Remote Terminal Unit (RTU)	N°.	1				
4.2	extension / re-use existng RTU	N°.	1				
4.3	Equipment and material for adaptation works	Lot	1				
4.4	Integration to the Scada Central system	Lot	1				
5	Ndarugu 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				
6	Meru 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	Lot	1				
6.4	Integration to the Scada Central system	Lot	1				
7	Githambo 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	Lot	1				
7.4	Integration to the Scada Central system	Lot	1				
8	Kiganjo 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				
9	Othaya 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				

D	Mount Kenya Region Substations / Power Stations Totals						
E	Mandatory spare parts RTU's and substation works						
	remarks:						
	Tenderer shall provide a list of recommended spare parts for long-term operation						
	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1				
	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				
	Equipment for adaptation works	set	1				
	48 V DC Supply equipment	set	1				
	Ferrule Marking Machine	set	2				
E	Mandatory spare parts RTU's and substation works Totals						
F	Facilities for Project Manager						
	Transport and Communication facilities as per 1.7.5	No.	1				
F	Facilities for Project Manager						
G	Training						
1	Overseas training 1						
	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation (each lot)	Lot					
2	Overseas training 2						
	Training courses IEC 61850 as per tender specifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
G	Overseas training						
H	Participation of KPLC personnel in Factory Tests						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
H	Participation of KPLC personnel in Factory Tests						

	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	Telecommunication Equipment at Substations						
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	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						
3.1	SDH Multiplexers	No.	2				
3.2	Installation & requisite Integration works	Lot	1				
4	Kikuyu 66/11 kV						
4.1	Microwave Radios (end to end)	Lot	1				
4.2	Installation & Integration works	Lot	1				
5	Limuru 66/11 kV						
5.1	SDH Multiplexers	No.	2				
5.2	Installation & requisite Integration works	Lot	1				
6	Athi River 66/11 kV						
6.1	SDH Multiplexers	No.	2				
6.2	Installation & requisite Integration works	Lot	1				
7	Machakos 33/11 kV						
3.1	Uplink Switches for Peer to Peer Connection	No.	2				
3.2	Heavy Duty Substation Switch	No.	1				
3.3	Installation & requisite Integration works	Lot	1				
8	Airport 33/11 kV						
8.1	Uplink Switches for Peer to Peer Connection	No.	2				
8.2	Heavy Duty Substation Switch	No.	1				
8.3	Installation & requisite Integration works	Lot	1				
9	Nyaga 33/11 kV						
9.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
9.2	Uplink Switches for Peer to Peer Connection	No.	2				
9.3	Heavy Duty Substation Switch	No.	1				
9.4	Installation & requisite Integration works	Lot	1				
10	Muthurwa 66/11 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				
11	Steel Billets 66/11 kV						

11.1	Microwave Radios (end to end)	Lot	1				
11.2	Installation & Integration works	Lot	1				
12	<i>EPZ 66/11 kV</i>						
12.1	Uplink Switches for Peer to Peer Connection	No.	2				
12.2	Heavy Duty Substation Switch	No.	1				
12.3	Installation & requisite Integration works	Lot	1				
13	<i>Mai Mahiu 66/11 kV</i>						
13.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
13.2	SDH Multiplexers	No.	2				
13.3	Installation & requisite Integration works	Lot	1				
A	Nairobi Region Substations / Power Stations Totals						
B	Coastal Region Substations / Power Stations						
1	<i>Msambweni 33/11 kV</i>						
1.1	Installation & testing 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				
1.4	Installation & requisite Integration works	Lot	1				
2	<i>Mwabungo 33/11 kV</i>						
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	<i>New Bamburi 132kV SS</i>						
3.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
3.2	SDH Multiplexers	No.	2				
3.3	Installation & requisite Integration works	Lot	1				
4	<i>Kanamai 33/11 kV</i>						
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				
5	<i>Watamu 33/11 kV</i>						
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				
6	<i>Kaloleni 33/11 kV</i>						
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				
7	<i>Malindi 33/11 kV</i>						
7.1	SDH Multiplexers	No.	2				
7.2	Installation & requisite Integration works	Lot	1				

8	Utange 33/11 kV						
8.1	Installation & testing 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 & requisite Integration works	Lot	1				
9	Shanzu 33/11 kV						
9.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
9.2	Uplink Switches for Peer to Peer Connection	No.	2				
9.3	Heavy Duty Substation Switch	No.	1				
9.4	Installation & requisite Integration works	Lot	1				
B	Coastal Region Substations / Power Stations Totals						
C.	Western Region Substations / Power Stations						
1	Kakamega 33/11 kV						
1.1	SDH Multiplexers	No.	2				
1.2	Installation & requisite Integration works	Lot	1				
2	Kericho 33/11 kV						
2.1	SDH Multiplexers	No.	2				
2.2	Installation & requisite Integration works	Lot	1				
3	Kisian 33/11 kV						
3.1	Installation & testing 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 works	Lot	1				
4	Kisii 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				
5	Kisumu East						
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				
6	Mogogosiek 33/11 kV						
6.1	Tower Supply (both ends of link)	Lot	1				
6.2	Microwave Radios (end to end)	No.	2				
6.3	Heavy Duty Substation Switch	No.	1				
6.4	Installation & Integration works	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 & requisite Integration works	Lot	1				
8	Sotik 33/11 kV						
8.1	Tower Supply (Single end)	Lot	1				

8.2	Microwave Radios (end to end)	Lot	1				
8.3	Installation & Integration works	Lot	1				
9	Cheptulu 33/11 kV						
9.1	<i>Tower Supply (both ends of link)</i>	Lot	1				
9.2	Microwave Radios (end to end)	Lot	1				
9.3	Installation & Integration works	Lot	1				
10	Elburgon 33/11 kV						
10.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
10.2	Uplink Switches for Peer to Peer Connection	No.	2				
10.3	Heavy Duty Substation Switch	No.	1				
10.4	Installation & requisite Integration works	Lot	1				
11	Gilgil 33/11 kV						
11.1	SDH Multiplexers	No.	2				
11.2	Installation & requisite Integration works	Lot	1				
12	Marula 33/11 kV						
12.1	<i>Tower Supply (Single end)</i>	Lot	1				
12.2	Microwave Radios (end to end)	Lot	1				
12.3	Heavy Duty Substation Switch	Lot	1				
12.4	Installation & Integration works	Lot	1				
13	Kihoto 33/11 kV						
13.1	<i>Tower Supply (Single end)</i>	Lot	1				
13.2	Microwave Radios (end to end)	Lot	1				
13.3	Installation & Integration works	Lot	1				
14	Soilo 132/11 kV						
14.1	SDH Multiplexers	No.	2				
14.2	Installation & requisite Integration works	Lot	1				
15	Njoro 33/11 kV						
15.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
15.2	Uplink Switches for Peer to Peer Connection	No.	2				
15.3	Heavy Duty Substation Switch	No.	1				
15.4	Installation & requisite Integration works	Lot	1				
16	Nyahururu 33/11 kV						
16.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
16.2	Uplink Switches for Peer to Peer Connection	No.	2				
16.3	Heavy Duty Substation Switch	No.	1				
16.4	Installation & requisite Integration works	Lot	1				
17	Rongai 33/11 kV						
17.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
17.2	Uplink Switches for Peer to Peer Connection	No.	2				
17.3	Heavy Duty Substation Switch	No.	1				
17.4	Installation & requisite Integration works	Lot	1				
18	Mwariki 33/11 kV						
18.1	Installation & testing 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 & requisite Integration works	Lot	1				
19	Eldoret Depot 33/11 kV						

19.1	SDH Multiplexers	No.	2				
19.2	Installation & requisite Integration works	Lot	1				
20	Eldoret Industrial 33/11 kV						
20.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
20.2	Uplink Switches for Peer to Peer Connection	No.	2				
20.3	Heavy Duty Substation Switch	No.	1				
20.4	Installation & requisite Integration works	Lot	1				
21	Kitale 33/11 kV						
21.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
21.2	Uplink Switches for Peer to Peer Connection	No.	2				
21.3	Heavy Duty Substation Switch	No.	1				
21.4	Installation & requisite Integration works	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 & requisite Integration works	Lot	1				
23	Turkwel 220kV						
23.1	Delivery to site from Lessos of ETL 600 PLC, Installation & commissioning works	Lot	1				
C	Western Region Substations / Power Stations Totals						
D	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				
1.3	Installation & requisite Integration works	Lot	1				
2	Embu 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	Karatina 33/11 kV						
3.1	Installation & testing 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 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				
5	Ndarugu 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				

G	Training						
H	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment						
1	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for FO terminal Equipment	Lot					
2	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for ADSS FO tests						
	Participation of KPLC personnel in Factory Acceptance Tests - Radio Equipment						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
H	Participation of KPLC personnel in Factory Tests						

SCADA EQUIPMENT AT SUBSTATIONS							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	SCADA Equipment at Substations						
A.	Nairobi Region Substations						
1	Industrial 66/11 kV						
1.1	extension / re-use existing 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	extension / re-use existing 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	extension / re-use existing RTU	N°.	1				
3.2	Equipment and material for adaptation works	Lot	1				
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	extension / re-use existing 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 works	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					
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	extension / re-use existing 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				
7	Steel Billets 66/11 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	Lot	1				
7.4	Integration to the Scada Central system	Lot	1				
7.5	Installation & requisite Integration works	Lot	1				
8	EPZ 66/11 kV						
8.1	extension / re-use existing 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	Mai Mahiu 66/11 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				
9.5	Installation & requisite Integration works	Lot	1				
A	Nairobi Region Substations / Power Stations Totals						
B	Mount Kenya Region Substations / Power Stations						
9	Embu 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				
9.5	Installation & requisite Integration works	Lot	1				
10	Karatina 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	Kerugoya 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	Lot	1				
11.4	Integration to the Scada Central system	Lot	1				
11.5	Installation & requisite Integration works	Lot	1				
12	Nanyuki 33/11 kV						
12.1	New Remote Terminal Unit (RTU)	N°.	1				
12.2	extension / re-use existing RTU	N°.	1				
12.3	Equipment and material for adaptation works	Lot	1				
12.4	Integration to the Scada Central system	Lot	1				
12.5	Installation & requisite Integration works	Lot	1				

13	Ndarugu 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	Lot	1				
13.4	Integration to the Scada Central system	Lot	1				
13.5	Installation & requisite Integration works	Lot	1				
14	Meru 33/11 kV						
14.1	New Remote Terminal Unit (RTU)	N°.	1				
14.2	Equipment and material for adaptation works	Lot	1				
14.3	48 V-DC Power Supply	Lot	1				
14.4	Integration to the Scada Central system	Lot	1				
14.5	Installation & requisite Integration works	Lot	1				
15	Githambo 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	Lot	1				
15.4	Integration to the Scada Central system	Lot	1				
15.5	Installation & requisite Integration works	Lot	1				
16	Kiganjo 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	Lot	1				
16.4	Integration to the Scada Central system	Lot	1				
16.5	Installation & requisite Integration works	Lot	1				
17	Othaya 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	Lot	1				
17.4	Integration to the Scada Central system	Lot	1				
17.5	Installation & requisite Integration works	Lot	1				
B	Mount Kenya Region Substations / Power Stations Totals						
C	Mandatory spare parts RTU's and substation works						
	remarks:						
	Tenderer shall provide a list of recommended spare parts for long-term operation						
	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1				
	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				
	Equipment for adaptation works	set	1				
	48 V DC Supply equipment	set	1				
	Ferrule Marking Machine	set	2				

C	Mandatory spare parts RTU's and substation works Totals						
D	Facilities for Project Manager						
	Transport and Communication facilities as per 1.7.5	No.	1				
D	Facilities for Project Manager						
E	Training						
1	Overseas training 1						
	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation (each lot)	Lot					
2	Overseas training 2						
	Training courses IEC 61850 as per tender specifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
E	Overseas training						
F	Participation of KPLC personnel in Factory Tests						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
G	Participation of KPLC personnel in Factory Tests						

Telecommunication Equipment at Substations							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	Telecommunication Equipment at Substations						
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	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	<i>Karen 66/11 kV</i>						
3.1	SDH Multiplexers	No.	2				
3.2	Installation & requisite Integration works	Lot	1				
4	<i>Kikuyu 66/11 kV</i>						
4.1	Microwave Radios (end to end)	Lot	1				
4.2	Installation & Integration works	Lot	1				
5	<i>Limuru 66/11 kV</i>						
5.1	SDH Multiplexers	No.	2				
5.2	Installation & requisite Integration works	Lot	1				
6	<i>Athi River 66/11 kV</i>						
6.1	SDH Multiplexers	No.	2				
6.2	Installation & requisite Integration works	Lot	1				
7	<i>Machakos 33/11 kV</i>						
3.1	Uplink Switches for Peer to Peer Connection	No.	2				
3.2	Heavy Duty Substation Switch	No.	1				
3.3	Installation & requisite Integration works	Lot	1				
8	<i>Airport 33/11 kV</i>						
8.1	Uplink Switches for Peer to Peer Connection	No.	2				
8.2	Heavy Duty Substation Switch	No.	1				
8.3	Installation & requisite Integration works	Lot	1				
9	<i>Nyaga 33/11 kV</i>						
9.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
9.2	Uplink Switches for Peer to Peer Connection	No.	2				
9.3	Heavy Duty Substation Switch	No.	1				
9.4	Installation & requisite Integration works	Lot	1				
10	<i>Muthurwa 66/11 kV</i>						
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				
11	<i>Steel Billets 66/11 kV</i>						
11.1	Microwave Radios (end to end)	Lot	1				
11.2	Installation & Integration works	Lot	1				
12	<i>EPZ 66/11 kV</i>						
12.1	Uplink Switches for Peer to Peer Connection	No.	2				
12.2	Heavy Duty Substation Switch	No.	1				
12.3	Installation & requisite Integration works	Lot	1				
13	<i>Mai Mahiu 66/11 kV</i>						
13.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
13.2	SDH Multiplexers	No.	2				
13.3	Installation & requisite Integration works	Lot	1				

A	Nairobi Region Substations / Power Stations Totals						
B	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				
1.3	Installation & requisite Integration works	Lot	1				
2	Embu 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	Karatina 33/11 kV						
3.1	Installation & testing 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 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				
5	Ndarugu 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				
6	Meru 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 & requisite Integration works	Lot	1				
7	Othaya 33/11 kV						
	Installation & testing of ADSS FO to Peer Link End	Lot	1				
7.1	Uplink Switches for Peer to Peer Connection	No.	2				
7.2	Heavy Duty Substation Switch	No.	1				
7.3	Installation & requisite Integration works	Lot	1				
8	Githambo 33/11 kV						
8.1	Installation & testing 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 & requisite Integration works	Lot	1				
B	Mount Kenya Region Substations / Power Stations Totals						
C	Mandatory spare parts RTU's and substation works						
1	ADSS FO Cable (5%)	KMS					
2	Multiplexers	No.	1				
3	Uplink Switches	No.	3				
4	Station Switches	No.	2				
5	ODFs	No.	2				
6	FC – LC Patch Cords	No.	4				
7	SFP Modules (2x20, 2x40, 2x60 & 2x80 KMS)	No.	4				
8	Complete Radio Unit, UHF (335-345MHZ)	No.	1				
9	Complete Radio Unit, UHF (360-370MHZ)	No.	1				
C	Mandatory spare parts RTU's and substation works Totals						
D	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				
D	Test Tools Specifications						
E	Training - FO Terminal equipment						
	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation	Lot					
	Training - Radio equipment						
	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation						
E	Training						
F	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment						

1	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for FO terminal Equipment	Lot					
2	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for ADSS FO tests						
	Participation of KPLC personnel in Factory Acceptance Tests - Radio Equipment						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
F	Participation of KPLC personnel in Factory Tests						

SCADA EQUIPMENT AT SUBSTATIONS							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	SCADA Equipment at Substations						
A	Coastal Region Substations / Power Stations						
1	<i>Msambweni 33/11 kV</i>						
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	Lot	1				
1.4	Integration to the Scada Central system	Lot	1				
1.5	Installation & requisite Integration works	Lot	1				
2	<i>Mwabungo 33/11 kV</i>						
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	Lot	1				
2.4	Integration to the Scada Central system	Lot	1				
2.5	Installation & requisite Integration works	Lot	1				
3	<i>Kanamai 33/11 kV</i>						
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	Lot	1				
3.4	Integration to the Scada Central system	Lot	1				
3.5	Installation & requisite Integration works	Lot	1				
4	<i>Watamu 33/11 kV</i>						
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	Lot	1				
4.4	Integration to the Scada Central system	Lot	1				
4.5	Installation & requisite Integration works	Lot	1				
5	<i>Kaloleni 33/11 kV</i>						
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	<i>Utange 33/11 kV</i>						
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	Lot	1				
6.4	Integration to the Scada Central system	Lot	1				
6.5	Installation & requisite Integration works	Lot	1				

7	Mbaraki 33/11 kV						
7.1	extension / re-use existing 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				
A	Coastal Region Substations / Power Stations Totals						
B	Mandatory spare parts RTU's and substation works						
	remarks:						
	Tenderer shall provide a list of recommended spare parts for long-term operation						
	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1				
	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				
	Equipment for adaptation works	set	1				
	48 V DC Supply equipment	set	1				
	Ferrule Marking Machine	set	2				
B	Mandatory spare parts RTU's and substation works Totals						
C	Facilities for Project Manager						
	Transport and Communication facilities as per 1.7.5	No.	1				
C	Facilities for Project Manager						
D	Training						
1	Overseas training 1						
	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation (each lot)	Lot					
2	Overseas training 2						
	Training courses IEC 61850 as per tender specifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
D	Overseas training						
E	Participation of KPLC personnel in Factory Tests						

	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
E	Participation of KPLC personnel in Factory Tests						

Telecommunication Equipment at Substations							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	Telecommunication Equipment at Substations						
A	Coastal Region Substations / Power Stations						
1	<i>Msambweni 33/11 kV</i>						
1.1	Installation & testing 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				
1.4	Installation & requisite Integration works	Lot	1				
2	<i>Mwabungo 33/11 kV</i>						
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	<i>New Bamburi 132kV SS</i>						
3.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
3.2	SDH Multiplexers	No.	2				
3.3	Installation & requisite Integration works	Lot	1				
4	<i>Kanamai 33/11 kV</i>						
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				
5	<i>Watamu 33/11 kV</i>						
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				
6	<i>Kaloleni 33/11 kV</i>						
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				
7	Malindi 33/11 kV						
7.1	SDH Multiplexers	No.	2				
7.2	Installation & requisite Integration works	Lot	1				
8	Utange 33/11 kV						
8.1	Installation & testing 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 & requisite Integration works	Lot	1				
9	Shanzu 33/11 kV						
9.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
9.2	Uplink Switches for Peer to Peer Connection	No.	2				
9.3	Heavy Duty Substation Switch	No.	1				
9.4	Installation & requisite Integration works	Lot	1				
A	Coastal Region Substations / Power Stations Totals						
B	Mandatory spare parts RTU's and substation works						
1	ADSS FO Cable (5%)	KMS					
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				
B	Mandatory spare parts RTU's and substation works Totals						
C	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				
C	Test Tools Specifications						
D	Training - FO Terminal equipment						
	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation	Lot					
	Training - Radio equipment						

	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation						
D	Training						
E	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment						
1	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for FO terminal Equipment	Lot					
2	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for ADSS FO tests						
	Participation of KPLC personnel in Factory Acceptance Tests - Radio Equipment						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
E	Participation of KPLC personnel in Factory Tests						

SCADA EQUIPMENT AT SUBSTATIONS							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	SCADA Equipment at Substations						
A	Western Region Substations / Power Stations						
1	<i>Kisumu 132/33 kV</i>						
1.1	extension / re-use existing 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	<i>Kisumu East 33/11 kV</i>						
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	Lot	1				
2.4	Integration to the Scada Central system	Lot	1				
2.5	Installation & requisite Integration works	Lot	1				
3	<i>Kakamega 33/11 kV</i>						
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	Lot	1				
3.4	Integration to the Scada Central system	Lot	1				
3.5	Installation & requisite Integration works	Lot	1				
4	<i>Kericho. 33/11 kV</i>						
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	Lot	1				
4.4	Integration to the Scada Central system	Lot	1				
4.5	Installation & requisite Integration works	Lot	1				
5	<i>Kisian 33/11 kV</i>						
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	<i>Kisii 33/11 kV</i>						
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	Lot	1				
6.4	Integration to the Scada Central system	Lot	1				
6.5	Installation & requisite Integration works	Lot	1				
7	<i>Mogogosiek 33/11 kV</i>						
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				
8	<i>Obote Rd 33/11 kV</i>						
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	<i>Sotik 33/11 kV</i>						
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				
9.5	Installation & requisite Integration works	Lot	1				
10	<i>Cheptulu 33/11 kV</i>						
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	Elburgon 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	Lot	1				
11.4	Integration to the Scada Central system	Lot	1				
11.5	Installation & requisite Integration works	Lot	1				
12	Gilgil 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	Lot	1				
12.4	Integration to the Scada Central system	Lot	1				
12.5	Installation & requisite Integration works	Lot	1				
13	Marula 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	Lot	1				
13.4	Integration to the Scada Central system	Lot	1				
13.5	Installation & requisite Integration works	Lot	1				
14	Kihoto 33/11 kV						
14.1	New Remote Terminal Unit (RTU)	N°.	1				
14.2	Equipment and material for adaptation works	Lot	1				
14.3	48 V-DC Power Supply	Lot	1				
14.4	Integration to the Scada Central system	Lot	1				
14.5	Installation & requisite Integration works	Lot	1				
15	Soilo 132/11 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	Lot	2				
15.4	Integration to the Scada Central system	Lot	1				
15.5	Installation & requisite Integration works	Lot	1				
16	Nakuru Depot 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	Lot	1				
16.4	Integration to the Scada Central system	Lot	1				
16.5	Installation & requisite Integration works	Lot	1				
17	Njoro 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	Lot	1				
17.4	Integration to the Scada Central system	Lot	1				
17.5	Installation & requisite Integration works	Lot	1				
18	Nyahururu 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	Lot	1				
18.4	Integration to the Scada Central system	Lot	1				
18.5	Installation & requisite Integration works	Lot	1				
19	Rongai 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	Lot	1				
19.4	Integration to the Scada Central system	Lot	1				
19.5	Installation & requisite Integration works	Lot	1				
20	Mwariki 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	Lot	1				
20.4	Integration to the Scada Central system	Lot	1				
20.5	Installation & requisite Integration works	Lot	1				
21	Eldoret Depot 33/11 kV						

21.2	New Remote Terminal Unit (RTU)	N°.	1				
21.3	Equipment and material for adaptation works	Lot	1				
21.4	48 V-DC Power Supply	Lot	1				
21.4	Integration to the Scada Central system	Lot	1				
21.5	Installation & requisite Integration works	Lot	1				
22	Eldoret Industrial 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	Lot	1				
22.4	Integration to the Scada Central system	Lot	1				
22.5	Installation & requisite Integration works	Lot	1				
23	Kitale 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	Lot	1				
23.4	Integration to the Scada Central system	Lot	1				
23.5	Installation & requisite Integration works	Lot	1				
24	Kapsabet 33/11 kV						
24.1	New Remote Terminal Unit (RTU)	N°.	1				
24.2	Equipment and material for adaptation works	Lot	1				
24.3	48 V-DC Power Supply	Lot	1				
24.4	Integration to the Scada Central system	Lot	1				
24.5	Installation & requisite Integration works	Lot	1				
25	Turkwel 11/220kV						
25.1	extension / re-use existing RTU	N°.	1				
25.2	Equipment and material for adaptation works	Lot	1				
25.3	48 V-DC Power Supply	Lot	1				
25.4	Integration to the Scada Central system	Lot	1				
25.5	Installation & requisite Integration works	Lot	1				
A	Western Region Substations / Power Stations Totals						
B	Mandatory spare parts RTU's and substation works						
	remarks:						
	Tenderer shall provide a list of recommended spare parts for long-term operation						
	Portable Test Set for RTU according Chapt. 1.3.5 incl. Note book, Software and tools	No.	1				
	Interface Testing Equipment for all digital and analogue I/Q-signals	No.	1				
	Interface Testing Equipment for Communication from/to SCADA/EMS-System incl. Software	No.	1				
	Equipment for adaptation works	set	1				
	48 V DC Supply equipment	set	1				
	Ferrule Marking Machine	set	2				
B	Mandatory spare parts RTU's and substation works Totals						
C	Facilities for Project Manager						
	Transport and Communication facilities as per 1.7.5	No.	1				
C	Facilities for Project Manager						
D	Overseas Training						
1	Overseas training 1						
	Training courses (detailed specification to be provided by Tenderer) for 2 KPLC Engineers excluding air travel and accomodation (each lot)	Lot					
2	Overseas training 2						
	Training courses IEC 61850 as per tender specifications for 2 KPLC Engineers excluding air travel and accomodation (each Lot)	Lot					
D	Overseas training						
E	Participation of KPLC personnel in Factory Tests						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					

E	Participation of KPLC personnel in Factory Tests						
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Telecommunication Equipment at Substations							
	Description	Unit	Qty	Unit Price DDP		Total Price DDP	
				Foreign Portion	Local Portion	Foreign Portion	Local Portion
	insert currency						
	Telecommunication Equipment at Substations						
A	Western Region Substations / Power Stations						
1	Kakamega 33/11 kV						
1.1	SDH Multiplexers	No.	2				
1.2	Installation & requisite Integration works	Lot	1				
2	Kericho 33/11 kV						
2.1	SDH Multiplexers	No.	2				
2.2	Installation & requisite Integration works	Lot	1				
3	Kisian 33/11 kV						
3.1	Installation & testing 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 works	Lot	1				
4	Kisij 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				
5	Kisumu East						
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				
6	Mogogosiek 33/11 kV						
6.1	Tower Supply (both ends of link)	Lot	1				
6.2	Microwave Radios (end to end)	No.	2				
6.3	Heavy Duty Substation Switch	No.	1				
6.4	Installation & Integration works	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 & requisite Integration works	Lot	1				
8	Sotik 33/11 kV						
8.1	Tower Supply (Single end)	Lot	1				
8.2	Microwave Radios (end to end)	Lot	1				
8.3	Installation & Integration works	Lot	1				
9	Cheptulu 33/11 kV						
9.1	Tower Supply (both ends of link)	Lot	1				
9.2	Microwave Radios (end to end)	Lot	1				
9.3	Installation & Integration works	Lot	1				
10	Elburgon 33/11 kV						
10.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
10.2	Uplink Switches for Peer to Peer Connection	No.	2				
10.3	Heavy Duty Substation Switch	No.	1				
10.4	Installation & requisite Integration works	Lot	1				
11	Gilgil 33/11 kV						
11.1	SDH Multiplexers	No.	2				
11.2	Installation & requisite Integration works	Lot	1				
12	Marula 33/11 kV						
12.1	Tower Supply (Single end)	Lot	1				

12.2	Microwave Radios (end to end)	Lot	1				
12.3	Heavy Duty Substation Switch	Lot	1				
12.4	Installation & Integration works	Lot	1				
13	<i>Kihoto 33/11 kV</i>						
13.1	<i>Tower Supply (Single end)</i>	Lot	1				
13.2	Microwave Radios (end to end)	Lot	1				
13.3	Installation & Integration works	Lot	1				
14	<i>Soilo 132/11 kV</i>						
14.1	SDH Multiplexers	No.	2				
14.2	Installation & requisite Integration works	Lot	1				
15	<i>Njoro 33/11 kV</i>						
15.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
15.2	Uplink Switches for Peer to Peer Connection	No.	2				
15.3	Heavy Duty Substation Switch	No.	1				
15.4	Installation & requisite Integration works	Lot	1				
16	<i>Nyahururu 33/11 kV</i>						
16.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
16.2	Uplink Switches for Peer to Peer Connection	No.	2				
16.3	Heavy Duty Substation Switch	No.	1				
16.4	Installation & requisite Integration works	Lot	1				
17	<i>Rongai 33/11 kV</i>						
17.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
17.2	Uplink Switches for Peer to Peer Connection	No.	2				
17.3	Heavy Duty Substation Switch	No.	1				
17.4	Installation & requisite Integration works	Lot	1				
18	<i>Mwariki 33/11 kV</i>						
18.1	Installation & testing 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 & requisite Integration works	Lot	1				
19	<i>Eldoret Depot 33/11 kV</i>						
19.1	SDH Multiplexers	No.	2				
19.2	Installation & requisite Integration works	Lot	1				
20	<i>Eldoret Industrial 33/11 kV</i>						
20.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
20.2	Uplink Switches for Peer to Peer Connection	No.	2				
20.3	Heavy Duty Substation Switch	No.	1				
20.4	Installation & requisite Integration works	Lot	1				
21	<i>Kitale 33/11 kV</i>						
21.1	Installation & testing of ADSS FO to Peer Link End	Lot	1				
21.2	Uplink Switches for Peer to Peer Connection	No.	2				
21.3	Heavy Duty Substation Switch	No.	1				
21.4	Installation & requisite Integration works	Lot	1				
22	<i>Kapsabet 33/11 kV</i>						
22.1	Uplink Switches for Peer to Peer Connection	No.	2				
22.2	Heavy Duty Substation Switch	No.	1				
22.3	Installation & requisite Integration works	Lot	1				
23	<i>Turkwel 220kV</i>						
23.1	Delivery to site from Lessos of ETL 600 PLC, Installation & comissioning works	Lot	1				
A	Western Region Substations / Power Stations Totals						
B	Mandatory spare parts RTU's and substation works						
1	ADSS FO Cable (5%)	KMS					
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	Complete Radio indoor unit	No.	2				
9	Complete Radio outdoor unit	No.	4				
10	Complete Radio antennae assembly unit	No.	4				

11	Enhanced outdoor Cat5e Cable	m	300				
B	Mandatory spare parts RTU's and substation works Totals						
C	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				
C	Test Tools Specifications						
D	Training - FO Terminal equipment						
	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation	Lot					
	Training - Radio equipment						
	1 week Training course (detailed specification to be provided by Tenderer & training material) for 4 KPLC personnel excluding air travel & accomodation						
D	Training						
E	Participation of KPLC personnel in Factory Acceptance Tests - FO Terminal Equipment						
1	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for FO terminal Equipment	Lot					
2	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation) for ADSS FO tests						
	Participation of KPLC personnel in Factory Acceptance Tests - Radio Equipment						
	5 days at Manufacturers Premise for 2 KPLC staff (excludes air travel & accomodation)	Lot					
E	Participation of KPLC personnel in Factory Tests						