

Addendum No. 3

Preamble

This addendum No. 3 to the above tender is being issued to give more clarity to the bidders on the required optical interfaces for each node in the network and other necessary changes to the Lot 2: Revamp of Telecommunication System tender document. However, there are no changes to Lot 1: Revamp of SCADA/EMS Systems.

All the amendments to the tender documents are listed in this Main Text of this Addendum and other than those listed in this Main Text, there are no changes to the tender documents.

Some of the main points of the original tender stipulations are reiterated in this Addendum to particularly *draw the attention of the Bidders. Bidders are advised to note the same and ensure compliance to the tender requirements.*

A Summary and General Clarification

Specific to Lot 2: Revamp of Telecommunication System:

1. The following table shall be used for getting more clarity on optical interfaces requirement given in the Addendum No. 2, Lot 2 Revamp of Telecommunication System, **7. Appendix B, Figure B-2** (pdf page no. 23).

Sl. No.	MPLS-TP Labels as given in Appendix B, Figure B-2	Number of optical interface to be provided.
1	4X10G	8, 10G interfaces
2	6X10G	12, 10G interfaces
3	5X10G	10, 10G interfaces

2. There is addition of Ethernet Module/Card and Optical Module/Card in the BoQ.



B Details of Amendments

The Tender documents stand amended to reflect changes in the relevant clauses, irrespective of whether or not the same are specifically covered in the details indicated below:

Volume – II: Technical Specifications

Lot 2: Revamp of Telecommunication System

1. Appendix B, Table B.1

Table B.1: Bill of Quantity for Communication Systems is replaced as below:

Sl. No.	Item Description	MPLS-TP		Teleprotection Interface	
		Unit	Quantity	Unit	Quantity
A	Supply of Main Equipment				
1	National Load Dispatch Centre (NLDC)	Set	1	Set	-
2	Chubachhu Substation	Set	1	Set	-
3	Olakha Substation	Set	1	Set	1
4	Gidagom Mini-hydel	Set	1	Set	-
5	Jamji Station	Set	1	Set	2
6	Chhukha Hydropower Plant	Set	1	Set	5
7	Gedu 66 kV Substation	Set	1	Set	-
8	Gedu 220 kV Substation	Set	1	Set	2
9	Phuentsholing Substation	Set	1	Set	0
10	Singhigaon Substation	Set	1	Set	2
11	Malbase Substation	Set	1	Set	6
12	Dhamdum	Set	1	Set	2
13	Gomtu	Set	1	Set	0
14	Tala Hydropower Plant	Set	1	Set	4
15	Semtokha Substation	Set	1	Set	2
16	Lobeysa Substation	Set	1	Set	0
17	Basochhu Hydropower Plant	Set	1	Set	2
18	Dharjey	Set	1	Set	2
19	Dagapela	Set	1	Set	1
20	Jigmeling Substation	Set	1	Set	10

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21	Backup NLDC, Jigmeling	Set	1	Set	-
22	Mangdechhu (MHP)	Set	1	Set	5
23	Gelephu Substation	Set	1	Set	2
24	Yurmoo Substation	Set	1	Set	2
25	Tintibi Substation	Set	1	Set	3
26	Nganglam Substation	Set	1	Set	3
27	Nangkor Substation	Set	1	Set	3
28	Kurichhu Hydropower Plant	Set	1	Set	2
29	Kilikhar Substation	Set	1	Set	2
30	Corlung Substation	Set	1	Set	2
31	Kanglung Substation	Set	1	Set	2
32	Phuntshothang Substation	Set	1	Set	2
33	Motanga Substation	Set	1	Set	3
34	Deothang Substation	Set	1	Set	2

Sl. No.	Item Description	Unit	Quantity	Remarks
B	Supply of Other Equipment			
I	NMS at NLDC			
1	Software	LOT	1	
2	Workstation / Server	LOT	2	
3	Craft Terminal	Nos.	2	
II	Supplementary Modules for Main Equipment			
1	E1 Interface	Nos.	1	
2	Optical Amplifier	Nos.	1	
3	Ethernet Module/Card	Nos.	1	
4	Optical Module/Card	Nos	1	
III	Spares			
1	MPLS-TP	Set	5	
2	Teleprotection Interface	Set	5	
3	Ethernet Cards	Nos.	5	

IV	Miscellaneous			
1	48VDC Power Supply System	Nos.	3	
2	GPS	Set	1	
V	Annual Maintenance Contract			
1	Year 1	LOT	1	
2	Year 2	LOT	1	
3	Year 3	LOT	1	
VI	Training For Communication System			
1	Design, installation and maintenance of Communication equipment	LOT	1	
2	Communication NMS	LOT	1	
3	Teleprotection	LOT	1	
VII	Installation, Testing and Commissioning			
1	Installation, Testing, and Commissioning of the Communication System	LOT	1	

"Note:

-Each **Set of MPLS-TP** shall include at least main and redundant modules for power supply, optical network cards and controller card to provide access to the configuration of the set and other connected sets in the network. It shall also include SFP (as per optical distance and losses mentioned in Appendix E) and Ethernet module with minimum 8 interfaces. It should incorporate all modules/wiring/cabling and accessories that are mandatory for satisfactory operation at the proposed network node. "

-Each **Set of Teleprotection** Interface shall include at least main and redundant power supply module, cables connecting protection relays (Main I & II, or Main & Backup as per the Appendix H) and all other necessary accessories for proper functioning of the Teleprotection."



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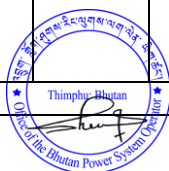
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I. Volume – III: Price Schedules

Lot 2: Revamp of Telecommunication System

Price Schedule for LOT 2: Revamp of Telecommunication System is replaced with the following:

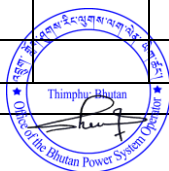
Sl. No.	Item Description	MPLS-TP					Teleprotection Interface					
		Unit	Quantity	Ex-Works (Nu/INR)	Unit Price (Nu/INR)	Sub-Total (Nu/INR)	Unit	Quantity	Ex-Works (Nu/INR)	Unit Price (Nu/INR)	Sub-Total (Nu/INR)	Total Price (Nu/INR)
			1	2	3	4=1x3		5	6	7	8=5x7	9=4+8
A	Supply of Main Equipment											
1	National Load Dispatch Centre (NLDC)	Set	1				Set	0				
2	Chubachhu Substation	Set	1				Set	0				
3	Olakha Substation	Set	1				Set	1				
4	Gidagom Mini-hydel	Set	1				Set	0				



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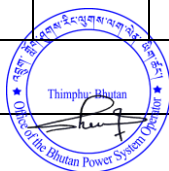
5	Jamji Station	Set	1			Set	2				
6	Chhukha Hydropower Plant	Set	1			Set	5				
7	Gedu 66 kV Substation	Set	1			Set	0				
8	Gedu 220 kV Substation	Set	1			Set	2				
9	Phuentsholin g Substation	Set	1			Set	0				
10	Singhigaon Substation	Set	1			Set	2				
11	Malbase Substation	Set	1			Set	6				
12	Dhamdum	Set	1			Set	2				
13	Gomtu	Set	1			Set	0				
14	Tala Hydropower Plant	Set	1			Set	4				
15	Semtokha Substation	Set	1			Set	2				
16	Lobeysa Substation	Set	1			Set	0				
17	Basochhu Hydropower Plant	Set	1			Set	2				
18	Dharjey	Set	1			Set	2				



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19	Dagapela	Set	1				Set	1				
20	Jigmeling Substation	Set	1				Set	10				
21	Backup NLDC, Jigmeling	Set	1				Set	0				
22	Mangdechhu (MHP)	Set	1				Set	5				
23	Gelephu Substation	Set	1				Set	2				
24	Yurmoo Substation	Set	1				Set	2				
25	Tintibi Substation	Set	1				Set	3				
26	Nganglam Substation	Set	1				Set	3				
27	Nangkhor Substation	Set	1				Set	3				
28	Kurichhu Hydropower Plant	Set	1				Set	2				
29	Kilikhar Substation	Set	1				Set	2				
30	Corlung Substation	Set	1				Set	2				
31	Kanglung Substation	Set	1				Set	2				

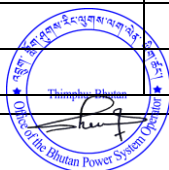


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32	Phuntshothan g Substation	Set	1			Set	2				
33	Motanga Substation	Set	1			Set	3				
34	Deothang Substation	Set	1			Set	2				
Total Amount quoted in Ngultrum for the Supply of Main Equipment (A)=											

Sl.No	Item Description	Unit	Quantity	Ex-works (Nu)	Unit Price (Nu)	Total Price (Nu)	Remarks
			1	2	3	4= 1x3	
B	Supply of other equipment						
I	NMS at NLDC						
1	Software	LOT	1				
2	Workstation / Server	LOT	2				
3	Craft Terminal	Nos.	2				
II	Supplementary Modules of Main Equipment						
1	E1 Interface	Nos.	1				
2	Optical Amplifier	Nos.	1				
3	Ethernet Module/Card	Nos	1				
4	Optical Module/Card	Nos	1				



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II	Spares						
1	MPLS-TP	Set	5				
2	Teleprotection Interface	Set	5				
3	Ethernet Cards	Nos.	5				
III	Miscellaneous						
1	48VDC Power Supply System	Nos.	3				
2	GPS	Set	1				
IV	Annual Maintenance Contract						
1	Year 1	LOT	1				
2	Year 2	LOT	1				
3	Year 3	LOT	1				
V	Training For Communication System						
1	Design, installation, and maintenance of Communication equipment	LOT	1				
2	Communication NMS	LOT	1				
3	Teleprotection	LOT	1				
VI	Installation, Testing and Commissioning						
1	Installation, Testing, and Commissioning of the Communication System	LOT	1				



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	<i>Total Amount quoted in Ngultrum (Nu) for other equipment(B)=</i>						
	<i>Total Amount quoted in Ngultrum (Nu) for the Communication System(C)=A+B</i>						

