Government of Jammu & Kashmir

POWER DEVELOPMENT DEPARTMENT
SYSTEM & OPERATION WING JAMMU

REVISED PROJECT REPORT
FOR
CONSRUCTION OF 132 KV D/C TRANSMISION LINE FROM RAMBAN TO SANGALDAN FOR PROVIDING POWER SUPPLY TO UPCOMING GRID SUB-STATION OF KRCL AT SANGALDAN

Application for obtaining Techno Economic Clearance

1.	Name of project.	Revised Project report for construction of 132 KV D/C Transmission line from Ramban to sangaldan for providing power supply proposed Grid station of KRCL at Sangaldan.
2.	Authority to accord Techno Economical Clearances	Techno. Economic Committee.
3.	Status of	
	a. PTCC Clearance	NA
	b. Forest Clearance	NA
	c. Clearance of Pollution Control Board and other clearance if, required.	Not required
4.	Particulars of the project.	
a)	Scope of Project.	construction of 17.58 KM, 132 KV D/C Transmission line from Ramban to sangaldan for providing power supply proposed Grid station of KRCL at Sangaldan.
b)	Estimated Cost.	Rs. 2418.55 lacs.

c)	If the project is revised, given the following information.	
	i) Scope of project anticipated originally	construction of 132 KV D/C Transmission line from Ramban to sangaldan for providing power supply proposed Grid station of KRCL at Sangaldan
	ii) Estimated cost envisaged originally	Rs.1187.38 lacs
	iii) PDD Who have ori8ginated the project report.	System & Operation wing Jammu.
	iv) Reference of letter regarding	Not Applicable yet
	v) Status of work	Yet to start
	vi) State if the revision in estimated costs has been done in respect of un-executed items of material equipment/work only.	YES
d)	If the scheme proposed in 11th Five Year plan	N.A
e)	Year-wise phasing of Exp.	Subject to availability of funds

f)	Necessity of the Project/Justification for revision.	The revision of project is based on the Latest survey conducted for laying of tr. Line from Ramban to sangaldan line.
g)	System study if done.	Yes
5.	Salient features of the project	Enclosed
6.	Technical particulars.	Enclosed
	Documents/Drawing attached (give lsit documents drawing attached) such as	
7.	Geological report profile of the line / Tower and its foundation drawing single line diagram/layout plant cross section details of Grid Station	Enclosed
8.	Any other additional information/documents necessary for assessing project report.	
9.	Date of Start.	.....

Asstt. Ex. Engineer

Executive Engineer,
Trans. Line Maintt. Div. III
Udampur

Superintending Engineer,
System & Operations circle-I
Jammu

Chief Engineer,
System & Operation Wing
Jammu.

INTRODUCTION AND NECCESITY FOR REVISION OF THE PROJECT :-

M/S Konkan Railway Corporation Ltd. Started execution of Udhampur-Srinagar-Baramulla-Rail Link Project on behalf of Northern Railway and had approached the Jammu and Kashmir Power Development Department in the year 2006 for meeting out their power requirement which includes the providing of 132 KV D/C power supply for their upcoming railway traction sub –station at Sangaldan . A meeting was convened in the office chamber C.E. EM&RE Wing Jammu on 27-10-2006 which was attended by the Engineers from KRCL, Chief Engineer S&O Wing Jammu, Superintending Engineer S&O Cr-I Jammu, Executive Engineer TLMD-III Udhampur alongwith other concerned PDD authorities. In the meeting proposals were discussed to meet out the power requirements of KRCL. On the basis of minutes issued by the Chief Engineer Electrical (Projects) vide his number KR/CO/EL/10/10/5 DATED 1-11-2006, it was requested by KRCL to provide power as per their requirement from Udhampur end and proposal contained therein the augmentation of 120 MVA, 220/132 KV Transformer Bank to 150 MVA, Construction of 2 no 132 KV Feeding bays at G/S udhampur for evacuation of power upto Barala , Construction of 132 KV D/C Udhampur –Barala Tr. Line, Construction of 2x20 MVA Grid Station at Barala .

Later on this proposal got reviewed by the KRCL and had requested to provide them power for their proposed Grid station at Sangaldan from Proposed Grid station at Ramban to be constructed by the JKPDD under PMRP by way of constructing two no. 132 KV feeding bays at upcoming Grid station Ramban and evacuation of power through 132 KV D/C Ramban- sangaldan tr. Line upto their proposed Grid substation at Sangaldan.

Accordingly a DPR was framed by this office based on the approved cost data of 2006-07 amounting to Rs. 1496.62 lacs envisaging below mentioned works :-

1. Construction of 02 no 132 KV Feeding bays at Upcoming 220/132/33 KV Grid Station Ramban
2. Construction of 18.8 KM 132 KV D/C Ramban- sangaldan tr. Line upto their proposed Grid substation at Sangaldan

The projected cost did not cover the cost of forest/ land /trees compensation and it was to provided by the railway/KRCL authorities at the time of assessment by the Revenue /forest authorities.

Due to non committal approach and non –allocation of funds by KRCL for the number of years together, the upcoming transformation capacity of 120 MVA at 220/132 KV Level was relooked and system study was re- conducted to make the optimum use of this capacity for the betterment and stability of power supply system at EHV Level in Erstwhile Doda District. This transformation capacity got booked in full as detailed below :-

S.NO	NAME OF GRID STATION	CAPACITY AT 132/33 KV VOLTAGE LEVEL	REMARKS
1	GRID STATION RAMBAN	20 MVA	Already proposed to be fed on this station
2	GRID STATION KHELLANI	40MVA	Before undertaking fresh system study, G/S Khellani being fed on 132 KV S/C UDH-DHP Transmission line of NHPC.In the re-conducted system study Khellani G/S Proposed to be fed through under construction 132 kv D/C Ramban-Kishtwar Tr. Line by way of making LILO of one circuit at Grid station Khellani .This arrangement will relieve the department from its dependability on NHPC for providing power supply to entire Doda District through only Grid station Khellani. In past many awkward positions were faced by the deptt. When this tr. Line got out of service due to damages or any other reasons.
3	GRID STATION KISHTWAR	40MVA	Already proposed to be fed on this station through under construction 132 kv D/C Ramban-Kishtwar Tr. Line
4	GRID STATION BHALLESSA	20MVA	Already proposed to be fed on this station through under construction 132 KV S/C Thathri-Bhallessa tr.line to be tapped from 132 kv D/C Ramban-Kishtwar Tr. Line at tapping station Barshalla
	TOTAL	120 MVA	

Besides this scheme for the augmentation of G/S Khellani from 40 MVA to 70 MVA stands TEC Cleared and construction of 10 MVA additional transformer bank at Grid station Kishtwar under progress, thus there is no scope to fed the proposed G/S Sangaldan of Railways from G/S Ramban.

Due to space constraints at G/S Ramban for the augmentation of said Grid station, the scope of works necessitated revision and also on the basis of directions of worthy Development commissioner (P), the division has explored the possibility of providing stable power supply and the most technically viable proposal which also vetted by the Chief Engineer S&O Wing Jammu and forwarded to the Worthy Development Commissioner Power vide no CE/S&O/J/T-/10062-67 dated 13-10-2012 is as under.

Upcoming KRCL Grid station at Sangaldan is proposed to be fed on 220/132/33 KV G/S Udhampur after augmentation from 240 MVA to 320 MVA through CSTL which has Loop in –Loop out arrangement at Ramban Grid station with creation of already projected 02 no 132 KV Feeding Bays through this 132 KV D/C Transmission line from Ramban Grid to Proposed Grid of sangaldan.(envisaged in the original DPR as well) .

The project has been revised due to the fact of lapsing out of considerable period from the time of last submission of original DPR and booking of the corridor adopted in the initial survey.

Need for the fresh survey has been felt by the division and KRCL, and accordingly an amount of Rs. 10.00 lacs as deposited by the KRCL for conducting of fresh survey. The survey and geotechnical study got done by this office from M/S Shardia Engineering Associates, a Himachal Pardesh based firm though open bidding.

Based on the survey report, geotechnical study, and transmission line design already in vogue vetted by the Central Electricity authority and trends of Protection of tower footing, this revised DPR has been framed amounting to Rs. 2163.78 Lacs on the basis of Cost data for the year 2012-13 to cover the cost of construction of 132 KV D/C Tr. Line from Ramban to Sangaldan inclusive of the cost for forest /land/crop compensation. The said DPR was forwarded by the Chief Engineer S&O Wing Jammu to Chief Engineer Planning & Design Wing Jammu vide letter No. CE/S&O/J/T-5074-78 dated 09-09-2015 for checking and placing it before the Techno-economic Committee for its TEC. But the Chief Engineer Planning & Design Wing Jammu raised observations on the DPR stating reasons for non-approval of Cost Data for the year 2012-13 from competent authority & directed to revised the DPR on the basis of Cost Data for the year 2006-07. Moreover, as deliberated in the TEC meeting held on 03-10-2015, and as intimated by the EPD Wing Jammu vide No. EP&D/Div-II/J/364-66 dated 25-01-2016, the DPR needs to be revised on the Cost data of 2006-07 for Electrical works and Civil SSR for Civil works like foundations and protections.

Meanwhile, the profiles were submitted to CEA for checking and vetting and during checking the CEA has recommended the strengthening of some more no. of towers from provision of 9 Nos. in the DPR to 25 nos. (Copy of the CEA letter enclosed).

Complying to the instructions and as checked in the EP&D Wing Jammu, NIT for the construction of 132KVD/C Ramban-Sangaldan Transmission Line on Turnkey Basis was floated by this Division with reserved price of Rs. 1100.00 Lacs, but the Nit has not received any response from the bidders till date.

It has been observed by the Superintending Engineer S&O Circle-I Jammu and the worthy Chief Engineer S&O Wing Jammu and concluded that the reserved price which has been based on the cost data of 2006-07 with 20% Price escalation, may be less and the reason for not bidding the tender from the bidders.

As directed, the costing of the DPR has been revised on the Cost data for the year 2012-13 alongwith incorporating the strengthen of Towers as desired by the CEA and increase of protection volume.

The revised cost of the project is worked out to the tune of Rs.2418.56 lacs.

Assistant Executive Engineer
Sub Division Batote

Executive Engineer
TLMD-III Udhampur

Superintending Engineer
System & Operation Circle-I
Jammu

Chief Engineer
System & Operation Wing
Jammu

ABSTRACT OF SCHEDULE OF PRICES AND QUANTITIES AS PER COST DATA 2012-13 AND INCORPORATING THE OBSERVATIONS OF CEA REGARDING STRENGTHENING OF TOWERS (SPECIAL TOWERS)

ANNEXURE-B

S.NO	PARTICULARS	SCHEDULE OF PRICES AND QUANTITIES	AMOUNT
PART A	SUPPLY OF MATERIALS & ACCESSORIES.		
1	ENGINEERING DESIGN, SUPPLY OF TOWER ACCESSORIES,LATTICE TYPE TOWER STRUCTURES , LINE MATERIALS & ACCESSORIES.	SCHEDULE-A	62338469
PART B	ERECTION, TESTING AND COMMISSIONING OF TRANSMISSION LINE INCLUDING CASTING OF FOUNDATIONS AND PROTECTION WORKS		
4	SURVEY AND CHECK SURVEY, crop , trees compensation	SCHEDULE-B	7290000
5	CASTING OF TOWER FOUNDATIONS	SCHEDULE-C	31904418
6	ERECTION OF TOWERS	SCHEDULE-D	11362343
7	STRINGING OF TR. LINE	SCHEDULE-E	8951420
8	PROTECTION WORKS OF TOWER FOOTINGS	SCHEDULE-F	33702000
	TOTAL		155548650
9	Add T&P @1%		1555486.50
	TOTAL		157104136.50
10	Add contengencies @3%		4713124.10
	TOTAL		161817260.60
11	Add 9.5% Supervision Charges on Rs. 161817260.60		15372639.76
	TOTAL		177189900.35
12	Add consultancy charges @3% on Rs. 155548650.00 for the finalization of GTP's drawings, profiles from Central Electricity Authority		4666459.50
	TOTAL		181856359.85
13	Forest Compensation a& Land Compensation		60000000.00
	GRAND TOTAL		241856359.85

Say Rs. 2418.56 Lacs

Asst. Executive Engineer

Superintending Engineer
System & Operation Cr-I
Jammu

Executive Engineer
PLMD-III Udhampur

Chief Engineer
System & Operation Wing
Jammu

132KV D/C Transmission Line from Grid Station RAMBAN to SANGALDAN

SCHEDULE-A

SCHEDULE OF PROVISINAL QUANTITIES & PRICES

S.no	Description	Unit	Qty	Per Units in MT/Nos./Kms	Total	Total Unit Rate	Total Price	Remarks
1	2	3	4	5	6	7	8	9
1	ENGINEERING DESIGN, SUPPLY TOWER ACCESSORIES i.e.							
1.1	Danger plate	Nos	49		49	250	12250	
1.2	Number plate	Nos	49		49	250	12250	
1.3	Phase plate	Nos	294		294	250	73500	
1.4	Circuit plate	Nos	98		98	250	24500	
1.5	Anti-climbing device	Nos	49		49	3420	167580	
1.6	Bird Guards	Nos	49		49	430	21070	
1.7	Earthing material		49		49	3420	167580	
1.8	vii) Nuts & Bolts with washers	Tons	10		10	62403	624030	
2	TOWER MATERIAL							
2.1	Tangent tower (0 deg - 2 deg)							
2.2	Normal tower with stubs	Nos	2	3.29	6.58			
2.3	3Mtr. Extension tower with stubs.	Nos	0					
2.4	6 Mtr. Extension tower with stubs.	Nos	0					
2.5	9 Mtr. Extension tower with stubs	Nos	0					
2.6	SMALL ANGLE TOWERS (0 deg. - 15 deg.)							

2.8	Normal tower with stubs truncated tower 3 mtr.	Nos	1	4.575	4.575			
2.9	3Mtr. Extension tower with stubs.	Nos	1	0.785	0.785			
2.1	6 Mtr. Extension tower with stubs.	Nos						
2.1	9 Mtr. Extension tower with stubs	Nos						
2.11	**MEDIUM ANGLE TOWER (15 deg.- 30 deg.)**							
2.12	Normal tower with stubs	Nos	**9**	**5.243**	**47.187**			
2.13	3Mtr. Extension tower with stubs.	Nos	0					
2.14	6 Mtr. Extension tower with stubs.	Nos	1	1.423	1.423			
2.15	9 Mtr. Extension tower with stubs	Nos	0					
2.16	**LARGE ANGLE & DEAD END TOWER (30 deg. - 60 deg./dead end)**							
2.17	Normal tower with stubs	Nos	**5**	**6.395**	**31.975**			
2.18	3Mtr. Extension tower with stubs.	Nos	0					
2.19	6 Mtr. Extension tower with stubs.	Nos	0					
2.2	9 Mtr. Extension tower with stubs	Nos	**0**					
2.21***	**Special Towers normal***		**25**	**8.41**	**210.25**			
2.22***	3Mtr. Extension tower with stubs.		1	**1.035**	1.035			

2.23***	6 Mtr. Extension tower with stubs.		2	1.678	3.356			
	Total		49		**338.400**	62403	21117175	
3	**SUPPLY OF LINE MATERIALS & ACCESSORIES.**							
3.1	**Power Conductor ACSR PANTHER of size 30/7/3.0 mm.**	Km	17.58 D/C	6.09/D.C KM	107.06	137810	14753939	
3.2	**Conductor Accessories**	No						
3.3	Mid span compression joints.	No	53		53	540	28620	
3.4	Repair sleeve	No	158		158	180	28440	
3.5	Vibration Damper.	No	600		600	360	216000	
3.6	Armed rod, Binding wires & tapes for conductor etc.	KG	18		18	300	5400	
3.7	**Galvanized strended steel ground wire of size 7/3.15 mm.**	**KM**	18		18	22000	396000	
3.8	**Ground wire Accessories.**							
3.9	Mid span compression joints.	No	36		36	135	4860	
3.10	Vibration Damper.	No	98		98	180	17640	
3.11	Earthwire suspension clamp	No	0		6	490	2940	
3.12	Earthwire tension clamp	No	98		98	490	48020	
	Insulators .							
3.13	70 KN EM strength Porcelain disc Insulators	No	300		300	365	109500	

3.14	120KN UTS strength Porcelain disc Insulators.	No	2560		2560	3000	7680000	
	Insulators Hardware Fittings.							
3.15	Single Suspension Insulators fittings	No	18		18	1330	23940	
3.16	Double suspension Insulators fittings	No	0		0	1470		
3.17	Single Tension Insulators fittings	No	294		294	1470	432180	
3.18	Double Tension Insulators fittings.	No	276		276	2660	734160	
3.19	Tag Welding of towers	NO	49		49	3000	147000	
4	**TOTAL 1 TO 3**						**42948574**	
5	Add 35.24% on Ex-Works cost of equipment and material on account of Exice Duty+Cess 8.24%, CST 12.5%, Entry Tax 12.5% , Packaging, Freight & Insurance 2%						15135077	
6	TOTAL 4 TO 5						**58083651**	
7	Spares @5% on 6						2904182	
8	TOTAL 6 TO 7						**60987833**	
9	Storage , handling and transportation , p.o.l etc	KM	17.58		17.58	76828	1350636	
10	**TOTAL 8 TO 9**						**62338469**	

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

132KV D/C Transmission Line from Grid Station RAMBAN to SANGALDAN

SCHEDULE OF PROVISINAL QUANTITIES & PRICES FOR ERECTION TESTING & COMMISSIONING. (SURVEY WORK)

SCHEDULE-B

S.no	Description	Unit	Qty	Total Qty.	Rate/Unit	Total Price	Remarks
1	2	3	4	5	6	7	8
1	**Survey and Crop, trees compensation**	Kms	18	18	4005000	7290000	

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

SCHEDULE OF PROVISIONAL QUANTITIES & PRICES FOR ERECTION TESTING & COMMISSIONING

(LAYING OF TOWER FOUNDATION)

SCHEDULE-C

S.no	Description	Unit	Qty	Rate/Unit	Total Price	Remarks
1	2	3	4	5	6	7
	Composite rate of foundations.(These rates includes all activities relating to completion of foundation e.g . Stub setting, supply and installation of earthing device, reinforcement, concreting, excavation, backfilling, shoring, shuttering, dewatering etc. for various type of towers including benching work.					
2.1	**Tangent tower (0 deg - 2 deg)**					
2.1.1	**Normal tower with stubs**					
2.1.1.1	Dry	Nos	**0**		0	
2.1.1.2	Dry fissured rock.	Nos	**0**		0	
2.1.1.3	Hard Rock	Nos	**2**	304259	608518	
2.1.1.4	P.S	Nos	**0**		0	
2.1.1.5	F.S	Nos	**0**		0	
2.1.2	**3Mtr. Extension tower with stubs.**				0	
2.1.2.1	Dry	Nos	**0**		0	
2.1.2.2	Dry fissured rock.	Nos	**0**		0	
2.1.2.3	Hard Rock	Nos	**0**		0	
2.1.2.4	P.S	Nos	**0**		0	
2.1.2.5	F.S	Nos	**0**		0	
2.1.3	**6 Mtr. Extension tower with stubs.**				0	
	Dry	Nos	**0**		0	
2.1.3.1	Dry fissured rock.	Nos	**0**		0	
2.1.3.2	Hard Rock	Nos	**0**		0	
2.1.3.3	P.S	Nos	**0**		0	
2.1.3.4	F.S	Nos	**0**		0	
2.1.4	**9 Mtr. Extension tower with stubs**				0	
	Dry	Nos	0		0	

[illegible]	[illegible]	[illegible]	0		0	
[illegible]	[illegible]	Nos	0		0	
[illegible]	[illegible]	Nos	0		0	
2.1.4.4	F.S	Nos	0		0	
					0	
2.2	**SMALL ANGLE TOWERS (0 deg. - 15 deg.)**				0	
2.2.1	**Normal tower with stubs**				0	
2.2.1.1	Dry	Nos	**0**		0	
2.2.1.2	Dry fissured rock.	Nos	**0**		0	
2.2.1.3	Hard Rock	Nos	**6**	396238	2377428	
2.2.1.4	P.S	Nos	**0**		0	
2.2.1.5	F.S	Nos	**0**		0	
2.2.2	**3Mtr. Extension tower with stubs.**				0	
2.2.2.1	Dry	Nos	**0**		0	
2.2.2.2	Dry fissured rock.	Nos	**0**		0	
2.2.2.3	Hard Rock	Nos	**1**	396238	396238	
2.2.2.4	P.S	Nos	**0**		0	
2.2.2.5	F.S	Nos	**0**		0	
2.2.3	**6 Mtr. Extension tower with stubs.**				0	
2.2.3.1	Dry	Nos	**0**		0	
2.2.3.2	Dry fissured rock.	Nos	**0**		0	
2.2.3.3	Hard Rock	Nos	**0**		0	
2.2.3.4	P.S	Nos	**0**		0	
2.2.3.5	F.S	Nos	**0**		0	
2.2.4	**9 Mtr. Extension tower with stubs**				0	
2.2.4.1	Dry	Nos	**0**		0	
2.2.4.2	Dry fissured rock.	Nos	**0**		0	
2.2.4.3	Hard Rock	Nos	**0**		0	
2.2.4.4	P.S	Nos	**0**		0	
2.2.4.5	F.S	Nos	**0**		0	
2.2.5	TRUNCATED TOWER (-3 MTR)	Nos	**1**	396238	396238	
2.3	**MEDIUM ANGLE TOWER (15 deg.- 30 deg.)**				0	
2.3.1	**Normal tower with stubs**				0	
2.3.1.1	Dry	Nos	**0**		0	

2.3.2	3Mtr. Extension tower with stubs.					
2.3.2.1	Dry	Nos	0		0	
2.3.2.2	Dry fissured rock.	Nos	0		0	
2.3.2.3	Hard Rock	Nos	0		0	
2.3.2.4	P.S	Nos	0		0	
2.3.2.5	F.S	Nos	0		0	
2.3.3	6 Mtr. Extension tower with stubs.					
2.3.3.1	Dry	Nos	0		0	
2.3.3.2	Dry fissured rock.	Nos	0		0	
2.3.3.3	Hard Rock	Nos	1	570174	570174	
2.3.3.4	P.S	Nos	0		0	
2.3.3.5	F.S	Nos	0		0	
2.3.4	9 Mtr. Extension tower with stubs					
2.3.4.1	Dry	Nos	0		0	
2.3.4.2	Dry fissured rock.	Nos	0		0	
2.3.4.3	Hard Rock	Nos	0		0	
2.3.4.4	P.S	Nos	0		0	
2.3.4.5	F.S	Nos	0		0	
					0	
2.4	LARGE ANGLE & DEAD END TOWER (30 deg. - 60 deg./dead end)					
2.4.1	Normal tower with stubs				0	
2.4.1.1	Dry	Nos	0		0	
2.4.1.2	Dry fissured rock.	Nos	0		0	
2.4.1.3	Hard Rock	Nos	5	766481	3832405	
2.4.1.4	P.S	Nos	0		0	
2.4.1.5	F.S	Nos	0		0	
2.4.2	3Mtr. Extension tower with stubs.					
2.4.2.1	Dry	Nos	0		0	
2.4.2.2	Wet	Nos	0		0	
2.4.2.3	P.S	Nos	0		0	
2.4.2.4	F.S	Nos	0		0	

2.4.3	6 Mtr. Extension tower with stubs.					
2.4.3.1	Dry	Nos	0		0	
2.4.3.2	Dry fissured rock.	Nos	0		0	
2.4.3.3	Hard Rock	Nos	0		0	
2.4.3.4	P.S	Nos	0		0	
2.4.3.5	F.S	Nos	0		0	
2.4.4	9 Mtr. Extension tower with stubs					
2.4.4.1	Dry	Nos	0		0	
2.4.4.2	Dry fissured rock.	Nos	0		0	
2.4.4.3	Hard Rock	Nos	0		0	
2.4.4.4	P.S	Nos	0		0	
2.4.4.5	F.S	Nos	0		0	
2.5	Special towers					since the rates for casting of spl. Type foundation is not envisaged in cost data 2012-13, rates of Dtype tower is considered
2.5.1	Special towers normal					
	Hard Rock	Nos	22	766481	16862582	
2.5.2	Special towers +3 mtr.					
	Hard Rock	Nos	1	766481	766481	
2.5.3	Special towers +6 mtr.					
	Hard Rock	Nos	2	766481	1532962	
	G.TOTAL		49		31904418	

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

SCHEDULE OF PROVISINAL QUANTITIES & PRICES FOR ERECTION TESTING & COMMISSIONING.

(ERECTION OF TOWERS SUPERSTRUCTURES)

SCHEDULE-D

S.no	Description	Unit	Qty	Rate/Unit	Total Price	Remarks
1	2	3	4	5	6	7
3	Erection of Various type of towers including leg extension complete with Nuts & Bolts including tack welding & fixing of tower accessories.					
3.1	**Tangent tower (0 deg - 2 deg)**					
3.1.1	Normal tower	MT	6.58	46443	305595	
3.1.2	3Mtr. Extension tower	MT				
3.1.3	6 Mtr. Extension tower	MT				
3.1.4	9 Mtr. Extension tower	MT				
3.2	**SMALL ANGLE TOWERS (0 deg. - 15 deg.)**	MT				
3.2.1	Normal tower	MT	32.02	37581	1203344	
3.2.2	truncated-3 mtr.	MT	3.79	37581	142432	
3.2.3	3Mtr. Extension tower	MT	0.785	37581	29501	
3.2.4	6 Mtr. Extension tower	MT				
3.2.5	9 Mtr. Extension tower	MT				
3.3	**MEDIUM ANGLE TOWER (15 deg.- 30 deg.)**	MT				
3.3.1	Normal tower	MT	47.187	35370	1669004	
3.3.2	3Mtr. Extension tower	MT	0			
3.3.3	6 Mtr. Extension tower	MT	1.423	35370	50332	
3.3.4	9 Mtr. Extension tower	MT	0			
3.4	LARGE ANGLE & DEAD END TOWER (30 deg. - 60 deg./dead end)	MT				
3.4.1	Normal tower	MT	31.97	32287	1032215	
3.4.2	3Mtr. Extension tower	MT	0			
3.4.3	6 Mtr. Extension tower	MT	0			
3.4.4	9 Mtr. Extension tower	MT	0			
3.5	**Special Towers**	MT				
3.5.1	**Special Towers normal'**	MT	210.25	32287	6788342	
3.5.2	3Mtr. Extension tower with stubs.	MT	1.035	32287	33417	
3.5.3	6 Mtr. Extension tower with stubs.	MT	3.35	32287	108161	
	TOTAL				**11362343**	
6	**G.TOTAL**				**11362343**	

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

SCHEDULE OF PROVISINAL QUANTITIES & PRICES FOR ERECTION TESTING & COMMISSIONING.

STRINGING OF TRANSMISSION LINE

SCHEDULE-E

S.no	Description	Unit	Qty	Rate/Unit	Total Price	Remarks
1	2	3	4	5	6	7
4	Installation of Insulator strings complete with necessary hardwares, Laying & stringing of ACSR PANTHER conductor including fixing of conductor accessories & temporary anchoring of Towers Laying of stringing of earthwire including fixing of earth wire accessories for the line.	D/C Km	17.58	509182	8951420	

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

132KV D/C Transmission Line from Grid Station RAMBAN to SANGALDAN

SCHEDULE OF PROVISINAL QUANTITIES & PRICES FOR ERECTION TESTING & COMMISSIONING.
(PROTECTION OF TOWERS)

SCHEDULE-F

S.no	Description	Unit	Qty	Rate/Unit	Total Price	Remarks
1	2	3	4	5	6	7
A	Protection of tower footings	Cu.m	6000.00	5617	33702000	

NOTE :- THE QUANTITY OF PROTECTION WORK IS TENTATIVE AND MAY INCREASE/DECREASE AT THE TIME OF EXECUTUION

AEE
TLMSD-III BATOTE

EXECUTIVE ENGINEER
TLMD-III UDHAMPUR

Cost of material for 220 & 132KV Transmission Lines			
S.No.	Particulars	Unit	REV.Rate
1	2	3	4
1	**Tower Material**		
1.1	Superstructure	Mt.	62403
1.2	Stubs	Mt.	62403
2	**Tower Accessories**		
2.1	Danger Plate	Nos.	250
2.2	Phase Plate	Nos.	250
2.3	Number Plate	Nos.	250
2.4	Circuit Plate	Nos.	250
2.5	Bird Guard	Nos.	430
2.6	Anti Climbing Device	Nos.	3420
3	**Earthing of Towers**		
3.1	Normal Type	Nos.	1710
3.2	Counter Poise	Nos.	3420
4	Nuts & Bolts	Mt.	62403
5	Conductor ACSR Zebra	Km.	265000
5.1	Conductor ACSR Panther	Km.	137810
6	**Condcutor Accessories**		
6.1	Mid Span compression joints	Nos.	540
6.2	Vibration Dampers	Nos.	360
6.3	Repair sleeve	Nos.	180
6.4	Aluminum Tape	Kgs.	300
7	Earth Wire 7/9 SWG	Km.	22000
8	**Earth Wire Accessoreis**		
8.1	Mid Span Compression Joint	Nos.	135
8.2	Vibration Dampers	Nos.	180
9	**Insulators**		
9.1	Disc Insulators (70 KN)	Nos.	365
9.2	Disc Insulators (120 KN)	Nos.	500
10	**Hardware fittings for conductor**		
10.1	Suspension fittings	Nos.	1330
10.2	Single tension fittings	Nos.	1470
10.3	Double tension fittings	Nos.	2660
11	**Hardware fitting for Earth wire**		
11.1	Suspension Clamps	Nos.	490
11.2	Tension Clamps	Nos.	490
12	**Misc. items**		
	Tag welding of towers	Tower	3000