



H.P. POWER TRANSMISSION CORPORATION LIMITED

(A State Government Undertaking)

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(CIN): U40101HP2008SGC030950.

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AGENDA ITEM NO:-38.18

AGENDA ITEM

MEMORANDUM FOR CONSIDERATION AND APPROVAL OF REVISED SCHEME FOR THE CONSTRUCTION OF 220/33 KV GIS SUBSTATION AT PHOSAL ALONG WITH CONSTRUCTION OF 220 KV D/C LINE FROM PHOSAL TO PATLIKUHAL.

BACKGROUND AND FACTS OF THE PRESENT CASE:-

In order to evacuate the Power from Beas & Chenab Basin, the Palchan GIS substation was proposed and the site was selected. Subsequently the Work for construction of 33/220kV, 31.5 MVA Palchan Substation was awarded to M/S L&T on turnkey basis,.

During the year 2011, construction of 33/220 kV Palchan substation was abandoned, consequent to the recommendations of special task force, constituted to review the Power evacuation arrangement of Chenab Basin. It was decided that the substation will be constructed at Phosal. The approval for construction of Phosal Substation was accorded in the 14th BOD held on 29.1.2012 vide item No 14.04. Placed at Flag A.

Subsequently, the scheme amounting to Rs 62.25 Crore was sanctioned vide letter no HPPTCL/Prj/Estimate/2010/229-31 dated 10.4.2012. The amended award was placed on M/s L&T for the supply and erection for execution of work at Phosal. The associated transmission system for Phosal Substation was envisaged as 220 kV D/c transmission line from Phosal to AD Hydro (Patlikuhal). The scheme for said transmission line was sanctioned amounting to Rs 8.15 Crore vide letter No HPPTCL/PRJ/2010-7298-7302 dated 2.2.2012.

A Transmission Line

Initially the work for 220 kV S/c transmission line from Palchan To AD hydro yard at Prini. was awarded to M/S Hythro Power ltd vide following Awards:

- a) Supply Award - HPPPTCL/HythroPower/Palchan-AD Hydro/2009 3191-95 dated 27.01.2010 amounting to Rs – 6,88,45,244.
- b) Erection Award -HPPPTCL/HythroPower/Palchan-AD Hydro/2009 3196-3200 dated 27.01.2010 amounting to Rs – 4,11,37,088

Total Award Amount : Rs- 10,99,82,332.

Due to change in the site and the scope of work , the amended award was placed in favour of M/s Hythro Power Ltd vide following LOA

- a) Supply Award - HPPPTCL/220kV LILO-Fozal/2012-13-773 dated 8.5.2013 amounting to Rs 4,72,10,898.
- b) Erection Award - HPPPTCL/220kV LILO-Fozal/2012-13-774 dated 8.5.2013. amounting to Rs 2,19,38,292

Total award : Rs 6,91,49,140.

The item wise comparison is placed below

Sr. No	Description	As Award per ₹	As per actual ₹	Deviation ₹
1	Tower and Tower accessories	28335513	28851443	5,15,930
2	Conductor and OPGW	11129032	11878203	7,49,171
3	Disc insulator	5241214	6040355	7,99,141
4	Hardware fitting	2505139	2159718	-3,45,421
5	Erection			0
6	Check survey	42520	43627	1107
7	Foundation work	10799961	35299960	24,499,999
8	Fixing of accessories	1882069	3076518	1,194,449
9	Stringing and sagging			0

10	ACSR Conductor	Zebra	425169	872476	4,47,307
11	OPGW		531461	872649	3,41,188
12	Earthing of Towers		41581	41581	0
13	Benching and Revetment		7965238	6607281	-13,57,957
14	Painting of Towers		38183	3198.38	-34,984.62
15	Providing and fixing of coloured globules		105570	52785	-52785
16	Testing and commissioning and Testing commissioning		106292	109060	2768
	Total		69149140	95308854	26,159,714 37.83%

As per DoFP Section II item at Sr.No9 sub item Sr.No.9.2.2(i) the deviation in award was approved twice by competent Authority.

1st Deviation was approved amounting to Rs 16,661,606 as per revised award amounting to Rs- 85,810,746.

2nd Deviation was approved amounting to Rs ₹ 94,98,108 as per revised award amounting to Rs 9,53.08,854.

Reason for the Escalation of Cost in Transmission line is as under:-

The line route Palchan to Prini was changed to Phosal to LILO at Patlikul of AD Hydro Transmission Line which resulted in change in alignment and terrain of the transmission line.

Foundation and stub setting –Due to change in site, soil classification of tower location also changed. The present location had Hard Rock and rates for hard rock were paid, which was available in the contract.

Change in No of towers:- As per award, there was a provision of 20 No Towers whereas as per actual, 23 no towers were erected. Erection including fixing of accessories and tentative quantity of Tower steel in award was 253 MT whereas as per actual the same is 369 MT resulting in variation of 116 MT

ACSR Zebra conductor quantity increased due to increase in line length.

B Substation

The award was initially placed against Palehan Substation vide following awards.

1. Supply award –HPP TCL/DGMCL&T-supply/2010-5107-12 dated 23.12.2010 amounting to Rs – 21,78,88,606.
2. Erection Award - HPP TCL/DGMCL&T-Erection/2010-5107-12 dated 23.12.2010 amounting to Rs – 6,35,90,179

Total Award Amount: Rs- 28,14,78,785.

Due to change in the site and the scope of work the amended awards in case of Fozal were issued as under-

- a) Amended Supply award –HPP TCL/DGMCL&T-Supply/2013 6855-66 dated 8.3.2013 amounting to Rs 31,27,27,954 only
- b) Amended Erection award –HPP TCL/DGMCL&T-Erection/2013 6862-8 dated 8.3.2013 amounting to Rs 7,93,12,180 only

Total Award Amount: Rs- 39,20,40,134.

The reasons for cost escalation in respect of 33/220 kV substation at Phosal are as under:-

Deviation in Supply portion of Substation

Sr. No	Description	As Award ₹	per As actual ₹	per Deviation
1	Supply Award	32.04	33.18	1.14 3.6%
2	Erection	3.75	3.26	-13.05%
3	Civil Item	5.90	5.76	-2.4 %
	Total	41.69	42.2	1.2%

- a) Increase in length of Bus duct due to single phase transformer.
- b) Increase in rail track.
- c) Overall space increased.
- d) Price variation on civil items.

- e) Increase in quantity in respect of XLPE cable 33 KV, 630 Sq mm.
 f) Entry tax was not applicable during placing of awards and the total financial implication in respect of entry tax worked out as Rs.6.34 Lac.

As per DoFP Section II item at Sr.No9 sub item Sr.No.9.2.2(i) the deviations in award were approved by competent Authority.

- a) Transformer capacity too was changed from 31.5 MVA to 100 MVA and separate order was placed on M/S Telk India Ltd. after exhausting all process. This was not a part of award placed on M/S L&T India LTD.
 b) C/o 160 Mtr approach road for Phosal Substation approved by BOD vide item No. 15.10

Scheme cost too stood revised from Rs- 70.40 Crore to Rs- 93.63 Crore as per the following details after incorporating the changes made for the successful completion of work. It will be worth mentioning here that escalation expected in mainly because of statutory payment like NPV, CA and entry tax.

C Revised Scheme

REVISED SCHEME FOR CONSTRUCTION OF 33/220KV 80/100 MVA GIS SUB STATION PHOZAL. MAIN ABSTRACT OF COST of Sub Station

S. No	Description	Amount As per Sanctioned Scheme (Lakh) ₹	Amount Revised Scheme (Lakh) ₹	Remarks
1	Cost of Pvt. Land acquisition as per the Annexure-A	203.76	203.69	
2	Cost of tree cutting ,Afforstation and forest land Diversion as per the Annexure-B	31.86	10.14	
3	Preliminary Works as per the Annexure-C	192.93	379.49	Paid As per actual site Conditions and detailed Engineering.
4.a	Cost of supply as per Annexure :	4,356.42	4,553.52	Paid As per quantaties finalised in detailed

	D+D1			Engineering
4.b	Entry tax Reimbursement: D+D1		186.44	Paid As per Award T &C
4.c	PV paid on supply Annexure: D1		96.77	Paid As per Award T &C
5-a	Cost of civil works and erection of equipments as per Annexure-E1+Annexure-E2	604.51	1,157.74	As per actual site Conditions and detailed Engineering The provision for accommodation led to the civil items escalation. There was no provision for official accommodation and staff quarters which has been proposed in the revise scheme ₹4.00 Crore
5-b	Price variation paid on the Civil works and Erection of equipments Annexure-E3		63.36	As per Award
6	Sub Total	5,389.47	6,651.15	
7	contingency charges@3%	161.68	199.53	
8	Sub Total	5,551.16	6,850.69	
9	Add 11 % Departmental charges	610.63	753.58	
10	Add 10.30 % service charges on DC	62.89	77.62	
11	G. Total	6,224.68	7,681.88	
		62.25 crore	76.82 Crore	
Excess		14.57	23.41%	

Revised Scheme for the Construction of 220/ Kv DC Transmission line from Phozal to Patlikuhl

Name of Scheme S. No	Description	Sactioned Scheme				Revised Scheme		
		Unit	Qty	Rate (lakh)	Amount (Lakh)	Actual Qty	Rate (lakh)	Amount (Lakh)
1	Cost of Preliminary/ Detailed Survey of Transmission line as per <i>Annexure-A</i>	Km	6	1.11	6.68	6.82	1.01	6.87
2	Compensation for the Pvt. Land , Trees , crop and cost of forest land diversion as per <i>Annexure-B</i>	Ls	6	22.65	135.90	6.82	60.95	415.56
3.a	Cost of supply as per <i>Annexure-C</i>	Km	6	59.09	354.55	6.82	69.37	472.95
3.b	Entry tax paid on the Supply							6.14
4.a	Cost of erection as per <i>Annexure-D</i>	Km	6	34.69	208.14	6.82	66.15	451.01
4.b	Price variation paid on Erection <i>Annexure-E</i>							₹103.31
5	Total				705.27			1,455.84
6	Add 3 % contingency charges				21.16			43.68
7	Total				726.43			1,499.51

8	Add 11 % Department al charges	79.91	164.95
9	Add 10.30 % service charges	8.23	16.99
10	Total	814.57	1,681.45
		Say 8.15 Crore	SAY 16.81 Crore

The other reasons which led for revision of scheme are as under:-

Sr.No	Description	Amount as per scheme	Actual Expenditure	% increase
1	NPV and CA charges	₹1.35 Crore	₹4.16 Crore	34.48
2	Compensation of land	Nil	₹1.13 Crore	13.86
3	Crop Compensation	Nil	₹0.13 crore	0.15
4	Price variation		₹1.03 Crore	12.64%
	Entry Tax		₹6.34 Lac	0.08
	Total			61.21%

C- Revision of Scheme:

1. Substation

Name of work	Sanctioned Amount ₹ Crore	Expenditure As per actual ₹1 Crore	Deviated amount	% Deviation
33/220 kV 80/100 MVA GIS substation at Phosal	62.25	76.82	14.57	23.41%

2. Transmission Line

Revised Transmission line 220 kV D/C transmission line from Phosal to patlikuhal	8.15	16.81	8.66	106.26%
Total	70.4	93.63	23.23	32.99

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Entry tax was not applicable during placing of awards and the total financial implication in respect of entry tax worked out as Rs.6.34 Lac.

In the original scheme, there was no provision of Office accommodation and Staff accommodation which has now been incorporated as per requirement amounting to Rs- 4 Crores yet to be executed.

Points for consideration and Approval of BODs:

The Board of Directors may kindly consider and accord approval for the following:

1. Revised Scheme in respect of 33/220 kV substation at Phosal amounting to Rs 76.82. Crore only.
2. Revised Scheme in respect 220 kV D/C transmission line from Phosal to Patlikual amounting to Rs- 16.81 Crores only.


Director (Projects)

The agenda item has been perused and is recommended for the consideration and approval of the Board of Directors.

Managing Director