

2

H.P. POWER TRANSMISSION CORPORATION LIMITED



(A State Government Undertaking)

BAROWALIA HOUSE, KHALINI, SHIMLA-2

Ph:-0177-2626283, FAX:-2626284

AGENDA ITEM NO:-22.13

AGENDA ITEM :- Revised Scheme For Construction Of 220kv D/C Line From Kashang to Bhaba Approval thereof.

BACKGROUND And FACTS Of THE PRESENT CASE:-

The H P Power Transmission Corporation Limited came into existence on 11th September 2008 and has been entrusted with the task of construction of transmission lines of 66KV and above in the State. Kashang Hydro Electric Projects allocated to Himachal Power Corporation Ltd. and is in the advanced stage of construction. It is expected that by May2014, power to the tune of 41MW from one Machine is likely to come for evacuation. This Hydro Electric Power Station will generate total 123 MW of Power. The existing transmission system is not capable of evacuating the power from this power house. A composite scheme for "Const. of 220 KV D/C line from Nathpa to Kashang/ Bhoktoo (by LILO of Bhaba Kunihar line) and installation of 220 /22 KV, 20 MVA S/Stn. at Bhoktoo along with Const. of 22 KV, S/C line on 66 KV towers from Bhoktoo to Akpa" was sanctioned. The A/A and E/S to the scheme amounting to Rs. 3474.133 Lacs was accorded vide CE (P & M) office order No. HPSEB (Sectt) 402-49 (Akpa) 02-64066-72 dated 27.08.02. The provisions for following two works were included in this scheme.

1. Construction of 220 KV D/C transmission line from Nathpa to Kashang /Bhoktoo by LILO of one circuit of 220 KV, D/C Bhaba Kunihar line amounting to Rs. 2394.415 Lacs

2. Construction of Bhoktoo-Akpa 22kV line on 66kV tower

HPSEB had undertaken the construction of Kashang-Bhaba 220 kV line through Turnkey basis and the work was placed to M/S Jyoti Structures Ltd. During March, 2009 the said line was handed-over to HPPTCL for completion. By the time a sum of Rs. 66.08 Crore had been spent on the line which include a sum of Rs. 49.20 Crore towards works, Rs. 0.6 Crores towards Establishment, Rs. 1.04 Crore towards Contingency, Rs. 0.08 Crore towards Stock, Rs. 4.81 Crore towards Prorata Share and Rs. 10.35 Crore towards IDC. But there were other pending liabilities of the firm like Service Tax amounting to Rs. 2.45 Crore, Retention money which was retained by the HPSEBL as per the award amounting to Rs. 1.58 Crore and Non-payment of supply, erection and retaining walls etc. which had already executed by the firm prior to the handing over of this line to HPPTCL.

No works were being executed by the firm till the resolution of its long pending issues. A meeting was held in the office chamber of MD, HPPTCL during the month of August, 2012 between the representative of the firm and HPPTCL's officers, the Minutes of Meeting are placed at **(Flag-A)**. The line had suffered the damage of Tower at Tower location 84 during the month of August, 2012, Gantry between Tower No. 47, 48 and at various locations, the protection work also suffered loss. Inadequate clearances between T.No. 40, 41 necessitated that erection of additional structure 40-A. It was agreed by the firm to execute the pending works on the resolution of the pending payments.

To have a comprehensive view, a Committee comprising of DGM(Design), DGM(Projects) and Sr. Manager, HPPTCL, Bhaba Nagar was constituted. The Committee visited the site during March, 2013. The

report of the Committee is placed at **(Flag-B)**. Based on the inputs of the Committee and the ~~pending~~ liabilities to be paid to the firm, the funds available ~~are~~ inadequate and the scheme warranted revision. To meet the expenditure incurred beyond the sanctioned amount and the expenditure likely to be incurred works out to be **Rs. 87.78 Crore** including a sum of **Rs. 66.08 Crore** incurred by the HPSEBL upto March, 2009 and transferred to HPPTCL, a sum of **Rs. 14.73 Crore** have been spent by HPPTCL upto October, 2013 towards the pending liability of HPSEBL. The comprehensive details are placed at **(Annexure-A)**. A sum of **Rs. 6.97 Crore** which includes the provision of replacement of tower at Tower location 83, 84, Extra Tower at T-40A, Retaining and Breast Walls at different locations, Trees compensation to the private owners, the details are placed at **(Annexure-B)**.

Further, a communication have been received from the office of Pr. Secretary(MPP & Power) vide letter No. MPP-C(7)-2/2011 dated 28.11.2013 regarding investment made by HPSEBL in transmission line transferred to HPPTCL but claimed from HPPCL wherein HPSEBL have sought refund of Rs. 66.08 Crore already incurred for the construction of this Kashang – Bhaba line, copy of letter placed at **(Flag-C)**

Accordingly, the revised scheme has been prepared for Rs. 87.79 Crore covering all the expenses incurred and likely to be incurred. The scheme has been prepared on the basis of actual exp. incurred against various sanctioned estimates as per the record, compensation of private land, fruit trees, The detailed revised scheme is placed at **(Flag-D)**. The revised scheme amounting to Rs. 87.79 Crore has been examined and concurred by the Finance Wing of HPPTCL.

DESIGN AND SCOPE : Const. of 220 kV D/C transmission line from Bhaba to Kashang

METHOD : On Turnkey basis.

Method of Financing; Proposed to be financed by REC in the ratio of 90% : 10%
(90% Loan and 10% Equity share)

COST Rs -87.79 Crore

RATE As per LOA No. HPSEB/DDT-251(Jyoti) 2005-2393-2400 dt 06-06-05, even no. 2401-08 dated 06-06-05 and The rates for three nos. towers (One No. Additional and two nos. damaged) have been taken from the latest award of Snail Hatkoti Line. The additional works have to be carried out by HPPTCL for completion of line. The cost includes three parts, actual expenditure incurred by HPSEBL, KKPCCL & HPPCL, actual expenditure incurred by HPPTCL till date and the expenditure to be incurred for completion of line.

Points for consideration

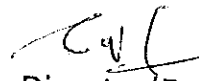
Approval of revised scheme for the construction of 220 kV D/c transmission line from Kashang to Bhaba amounting to Rs 87.79 Crore comprising of the following :-

- | | | | |
|-----|---|---|-----------------|
| i) | To refund the construction cost of line incurred by the HPSEBL ending March, 2009 | : | Rs. 66.08 Crore |
| ii) | To meet the expenditure already : Incurred by HPPTCL ending October, 2013 | : | Rs. 14.73 Crore |

iii) To meet the expenditure likely : Rs. 6.98 Crore
to be incurred to complete the
remaining works. _____

G.Total:- Rs. 87.79 Crore

Thus Board of Director may kindly consider and approve
the revised scheme amounting to Rs. 87.79 Crore and
also financing from REC in the ratio of 90 : 10 (Rs. 79.01
Crore Loan from REC and Rs. 8.78 Crore as Equity)


Director(Projects)

MINUTES OF THE MEETING HELD ON 23RD AUGUST, 2012 BETWEEN M/S JYOTI STRUCTURES LTD. AND HPPTCL IN THE OFFICE CHAMBER OF MANAGING DIRECTOR, HPPTCL TO RESOLVE THE ISSUES FOR THE CONSTRUCTION OF 220 kV D/C TRANSMISSION LINE FROM KASHANG TO BHABA.

All the participants were welcomed.

The work was awarded to M/S Jyoti Structures Ltd. for the construction of 220 kV D/C transmission lines from Kashang to Bhaba vide Award No. HPSEB/DDT-251 (Jyoti)2005-2401-08 dated 6.6.2005 and subsequently the Agreement was also signed between HPPTCL and HPPCL on 6.4.2009 wherein 220 kV Kashang-Bhaba double circuit transmission line including terminal equipments constructed at the total cost of expenditure i.e. Rs. 6921.40 Lac was handed over to the second party i.e. HPPTCL by its predecessor HPSEB for completion of balance work. The work was to be completed by 31.12.2008 as per original agreement.

The extension to the award will be granted after the approval of the competent authority as HPPTCL is the successor entity of this contract signed by HPSEBL for the execution of the work for 220 kV transmission line. The matter of signing the supplementary agreement in between the executing firm M/S Jyoti Structures Ltd and HPPTCL for the extension of the contract entered into by

[Handwritten signature]
[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

HPSEBL, needs to be examined by Planning & Contract Cell, Finance and Legal Units of HPPTCL and draft agreement, if so required, shall be placed before MD, HPPTCL for approval so that the same is entered into with M/S Jyoti Structures Pvt. Ltd. for the execution of the pending works over and above the contract signed by the HPSEBL for completion of the 220 kV Kashang Bhaba line. The additional/extra works which are not covered in the original award shall be completed by the firm. The following points were emerged during the course of meeting which was agreed by both the parties :-

1. Rates for the balance Earth Cutting Work : The balance work for providing clearances at least 10-12 location enroute the line wherein additional ground clearances or horizontal clearances are not available but need to be provided by cutting the solid rock with approximate quantity is about 5500 Cubic mt (subject to actual measurement). The item rates are not available in the original tender. The firm has requested for Rs. 1200 per Cmt for execution of this job as extra item whereas HPPTCL insisted on negotiation and tentatively Rs. 950 per Cmt which was agreed too by the firm.

2. Approval for revetment work : M/S Jyoti Structures Ltd. has brought to the notice that payments for this protection work and other civil works executed at site has not been made for the full quantum of work. The payment has only been made for the civil work which was visible i.e. above ground level. The foundation and non-visible quantum has not been paid. It was agreed to make the payments after site verification. The prudent check at 10 locations will be done with Sr. Manager, HPPTCL Bhaba Nagar, Civil Consultant, HPPTCL and authorized representative of M/S Jyoti Structures Ltd. for hidden work and the report to this has to be submitted on or before 7th September, 2012 by this team. In the event the measurement of the sites checked by the team matches to the original measurements only then balance payments will be made otherwise complete check for remaining location shall be made. The payments will be made on such measurements accordingly.

3. Balance Payments : M/S Jyoti Structures has requested HPPTCL to release the retention amount payment of Rs. 158 Lacs which has been retained against the supply payment even though the active bank guarantee is available with HPPTCL and has

requested to release the payment. Further M/S Jyoti Structures has also requested HPPTCL to release the balance payment against outstanding supply payment amounting to Rs. 41 Lacs. DGM(Finance) and Sr Manager, HPPTCL, Bhaba Nagar will ensure that after prudent check from the record with reference to the payments earlier made and shall process the case. The payments will be ensured by 15th September, 2012 up to Rs. 1.00 Crore and balance payment shall be made in the month of October and November, 2012 in two instalments.

Handwritten signature
Handwritten signature

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten signature

Handwritten signature

4. Completion of remaining works: 3 Nos. Tower need to be erected for the completion of the transmission line at Tower location No. 1, additional tower need to be provided for replacement of Tower at location No. 84 (it got damaged during July, 2012) and extra tower for providing clearance at tower location 40 A. Since the tower location at location No. 1 was in the original scope of the work will only be measured as per original awarded rates whereas additional work at Tower 84 (new tower, replacement of damaged tower) and at tower location 40 A shall be measured on the negotiated rates. The firm has sought the rates as quoted in the Annexure-A, which is

about 16.96% for all works related to foundation of the tower and 83% above the original award for the tower erection and 150% above the original awarded rates for stringing.

HPPTCL agreed for the price enhancement only upto 12% for the extra work related to tower location 40A and 84 (new) for all works except the stringing & tower erection. It was agreed to allow price variation based on the original award rates w.e.f. 30.12.2008 in respect of such work, on IEEMA price variation formula. However, all works related to tower location 1 shall be measured as per original awarded rates. It was agreed that all works shall be completed by 30th November, 2012 and no price escalation will be paid beyond 30th November, 2012. It was also agreed that any other work required for the completion and commissioning of 220 kV Kashang Bhaba line as per prudent and standard construction practices of EHV lines like providing earthing, mandatory clearances, replacement of disc insulators and anti climbing devices, phase plate, number plate, danger plate, punching of Bolts, coping of chimneys, repairing of the conductor, re-sagging of the broken

Alankar
Chairman

S

30.12.12

Spk

SL

24.12.12

SL

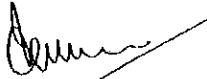
conductor etc. shall be completed by the firm without claiming any extra payment.

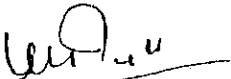
Tower material for the tower location No. 84 and 40-A will taken from the spares available in the stock .

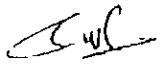
The meeting ended with a vote of thanks to the chair.

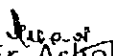
HPPTCL

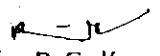
M/S Jyoti Structures Pvt. Ltd.

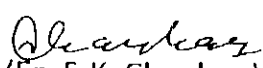

1. (J.C. Sharma) IAS
MD, HPPTCL

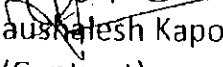

2. (Er. V.K. Kaprate)
Director(P&C)


3. (Er. R.K. Sharma)
Director(Projects)

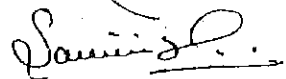

4. (Er. Ashok Sharma)
GM(C & D)


5. (Er. R.C. Kaundal)
DGM(Projects)


6. (Er. S.K. Chauhan)
DGM(Design)


7. (Er. Kaushalesh Kapoor)
DGM(Contract)


Sh. K.C. Chadha
General Manager


Sh. Santosh Sagar
Dy. General Manager

8. (Er. R.S. Chaudhary)
Sr. Manager (Projects)

9. (Er. S.K. Verma)
Sr. Manager (Design)

H.P. POWER TRANSMISSION CORPORATION LTD.

In compliance to the Office Order No. HPPTCL /PRJ/Bhaba/2013-6521-26 dated 19-2-2013 vide which the Committee was constituted to study the failures, experienced on 220 kV, D/C Kahang-Bhaba Transmission line, at various Tower locations. The members of the Committee visited Bhabanagar w.e.f. 07-04-2013 to 10-04-2013 and it was observed that due to unexpected heavy rain during rainy season and extra ordinary snowfall during the winter, the said Transmission line found damaged on different Towers locations and these need rectifications/modifications as appended hereunder:-

- T-1 The erection work of tower found almost completed.
- T-2 Additional retaining wall is required to be provided.
- T-15 Retaining wall is required for one leg.
- T-39 Retaining wall is required to be constructed and ground clearance is to be maintained.
- T-40A Foundation work is in progress.
- Gantry One column and one beam of Gantry between Tower No. T46 & T47 (near Karcham) found damaged and required to be replaced.
- T-50. Breast wall is required to be constructed.
- T-52. Protection work was found damaged and require repair.
- T-52-T-53. One number middle conductor was found broken which requires replacement.
- T-57-T-58 One number bottom conductor was found missing which requires replacement.
- T-58. Retaining wall is required to be constructed.
- T-74. Protection work is required.
- T-75 Top X-Arm found damaged and one middle conductor between T-75 & T-76 found broken which are required to be replaced/repared.
- T-77-T-78 Bottom conductor found broken and requires repair/replacement .
- T-81 Breast/Retaining walls are required to be repaired.

[Signature]

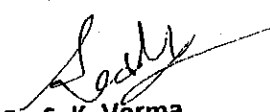
[Signature]

[Signature]

- T-82. Retaining wall is required to be constructed afresh.
- T-83. Complete Tower collapsed alongwith retaining & Breast walls which are required to be replenished/erected afresh alongwith stubs & protection work.
- T-84. Complete Tower collapsed alongwith conductor from T-83-T-84 and required to be constructed/erected afresh alongwith protection work.
- T-85. Two Legs and bottom storey of Tower found damaged due to sliding/hitting of boulders and required to be replaced alongwith protection work.
- T-89. Protection work is required at T-89 and Ground clearance is not available between T-89-T-90 which is required to maintained as per IE Rules.
- T-97. Retaining wall found damaged and need to be constructed afresh.

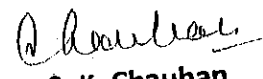
It is pertinent to point out that the loss to the Transmission line was due to unpredictable harsh climate i.e. heavy rains & snowfall in the area in the recent past. It was also gathered from the people of the area that there was heavy loss to the life, property/infrastructures, Roads of the project area.

Submitted please.


Er. S. K. Verma
Sr. Manager (Designs)


Er. Surjit Dhiman.
HPPTCL, Shimla, Consultant (C)


Er. Kaushalesh Kapoor,
DGM(Projects),


Er. S. K. Chauhan
DGM (Designs)

Flag "C"

15

HIMACHAL PRADESH STATE ELECTRICITY BOARD
(A State Government undertaking)

No. HPSEB L/F&A/CPC-2907/2012- 2320
To

Dated - 21/12/12

The Accounts officer,
H.P.P.T.C.Ltd. ,Barowalla House,
Khalina, Shimla-171002.

Subject:- Construction of 220 KV D/C Kashang- Bhaba Transmission line
reimbursement retention money to M/s Jyoti Structure Ltd. retained
against various running bills prior to the period it was handed over to
HPPTCL.

Sir,

Jai Hind

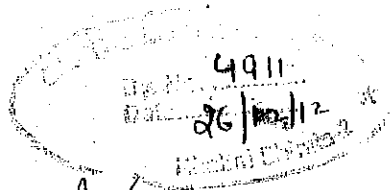
Kindly refer to your letter No. HPPTCL/F&A/Kashang-Bhaba Trans.
line/2012-5282-84 dated. 12.12.2012 on the subject cited above.

In this context it is intimated that retention money @ 10% has not been
booked against the expenditure transferred to HPPTCL to the tune of Rs. 6603.00 Lac.
This office has booked only net payment released to the contractor M/s Jyoti Structure
Ltd. and income tax deducted from the bills against the expenditure of Rs. 6608.00 Lac.

It is therefore requested that the retention money may please be
released/booked against the work at your own level as no such liabilities are lying out-
standing in the record of this office.

Yours faithfully,

Accounts Officer (CPC)
F&A Wing, HPSEBL
Vidyut Bhawan, Shimla-4



Expenditure made by HPSEB against 220KV Transmission line from Kashang to Bhabanagar

Rupees in lac

Year	Works	Estt.	Contg.	Stock	P/Share	Total	IDC	G.Total
2002-03	0.42	46.35	0	0	3.28	50.05	0	50
2003-04	1.02	0.07	0	0	0.08	1.17	6.51	7
2004-05	1.94	14	0	1.12	0	17.06	8.08	25
2005-06	427.43	0.18	12.77	0	47.01	487.39	12.31	499
2006-07	4198.7	0	91.34		344.48	4634.54	263.45	4897
2007-08	290.22	(-) 0.85	0	6.64	86.07	382.08	745.36	1127
		59.55	Total:-	480.92		1035.71		6608

4919.73

104.11

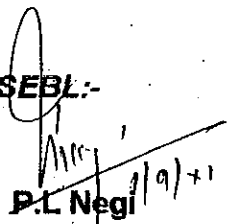
7.76

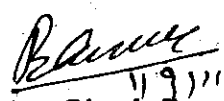
5572.29

Certified that the expenditure incurred against 220 KV Transmissio Line ending March, 2008 is Rs. 6608.00 lac as per the balance sheet of HPSEB Ltd. which was reconcilled on 1st Sept., 2001 and the following were present:

On behalf of HPPTCL, HPPCL & HPSEBL:-


Hira Lal Verma 11/9/11
 Asstt. Accounts Officer
 Barowalia House, HPPTCL,
 Khalini, Shimla-2


P.L. Negi 11/9/11
 Accounts Officer,
 Integrated Kashang HEP
 HPPCL, Reckongpeo


Pratap Singh Panwa 11/9/11
 Sr. Accounts Officer
 F&A Wing, HPSEBL
 Shimla-171004.



Flag D

17

H.P. POWER TRANSMISSION CORPORATION LIMITED

(A State Govt. Undertaking)
Barowalias House Khalini, Shimla-2
Ph: 0177-2626283, Fax: 2626284

NAME OF ESTIMATE/SCHEME:- Revised estimate / scheme for
"Construction of 220 KV D/C line
from Kashang to Bhaba".

ACCOUNT HEAD:- 14.5

REVISED ESTIMATED COST:- Rs. 8778.68 Lacs.

REPORT

HISTORY:- A composite scheme for "Const. of 220 KV D/C line from Nathpa to Kashang/ Bhoktoo (by LILO of Bhaba Kunihar line) and installation of 220 /22 KV, 20 MVA S/Stn. at Bhoktoo along with Const. of 22 KV, S/C line on 66 KV towers from Bhoktoo to Akpa" was sanctioned and the A/A and E/S to the scheme amounting to Rs. 3474.133 Lacs was accorded vide CE (P & M) office order No. HPSEB (Sectt) 402-49 (Akpa) 02-64066-72 dated 27.08.02. The provisions for following two works were included in this scheme.

1. Construction of 220 KV D/C transmission line from Nathpa to Kashang /Bhoktoo by LILO of one circuit of 220 KV, D/C Bhaba Kunihar line amounting to Rs. 2394.415 Lacs
2. Installation of 220/22 KV, 20 MVA sub-station at Bhoktoo along with construction of 22 KV, S/C line on 66 KV towers from proposed Bhoktoo sub- station to Akpa amounting to Rs. 1079.718 lacs.

Based on the above Scheme the Const. work of evacuation system was taken in hand by HPSEB and the work for Construction of 220 kv, D/C transmission line from Kashang to Bhaba, which included supply of material and erection of line, was awarded on turnkey basis to M/S Jyoti Structure Ltd. Vide LOA No. HPSEB/DDT-251(Jyoti) 2005-2393-2400 dt 06-06-05 and even no. 2401-08 dated 06-06-05. The firm started the construction of above line on dated 30-08-07. An expenditure amounting to Rs. 6608 Lac had been made by HPSEB and still the work was in progress.

The MOU regarding taking over of this incomplete 220 kv Kashang Bhaba D/C Line from HPSEB with expenditure amounting to Rs. 6608 Lac (ending 3/2009), incurred on it was signed between HPPCL and HPPTCL on 6th April 2009. On the inspection of line, certain discrepancies were found i.e. Clearances as per Indian electrical rule were not adequate towards hill side hence cutting was advised and one no additional tower 'T-40 A' was proposed. In the meantime Tower No 83 and 84 were damaged due to boulders .The gantry was damaged and the x-arm at structure no 75 was damaged due to snow and rains. Some of the retaining walls had also got damaged and breast wall is required to be provided on these locations. The spare towers were used to replace the damaged tower and additional Tower No '40 A' which needs to be refurbished.

All the points mentioned above lead to the revision of scheme.

DESIGN AND SCOPE: Const. of 220 kv D/C transmission line from Bhaba to Kashang

MEHOD : On Turnkey basis.

COST : Rs. 8778.68 lacs.

RATE : As per LOA No. HPSEB/DDT-251(Jyoti) 2005-2393-2400 dt 06-06-05, even no. 2401-08 dated 06-06-05 and actual exp. incurred against various sanctioned estimates for compensation of pvt. land, fruit trees, forest tree on private land and payment for conversion of forest land for non forestry use which includes NPV charges compensation of trees etc. The rates for three nos. towers (One No. Additional and two nos. damaged) have been taken from the latest award of Snail Hatkoti Line. The additional works have to be carried out by HPPTCL for completion of line. The cost includes three parts, actual expenditure incurred by HPSEBL, KKPCL & HPPCL, actual expenditure incurred by HPPTCL till date and the expenditure to be incurred for completion of line.

Sr. Manager (Project)
H.P.P.T.C.L. Division
Bhaba Nagar (Kinnaur)

NAME OF SCHEME:- Revised estimate / scheme for "Construction of 220 KV D/C line from Kashang to Bhaba".

18

MAIN ABSTRACT OF COST

Sr. No.	Description	TOTAL (Rs. In Lacs)
1.	Actual Expenditure (ending 3/2009), handed over by HPPCL to HPPTCL	6608.00
2	Expenditure made by HPPTCL since taking over the line (Annexure-A)	1473.29
3	Tentative Additional Expenditure required to be made for completion of Line. (Annexure-B)	697.39
	G.TOTAL	8778.68

Rs. Ninty Crore, Ninty One Lac eight thousand Only

ANNEXURE-A

NAME OF SCHEME:- Revised estimate / scheme for "Construction of 220 D/C line from Kashang to Bhaba".

20

DETAILS AND ABSTRACT OF APPROXIMATE COST OF ADDITIONAL WORKS (Made by HPPTCL since taking over the line- ending 10/2013).

Sr.N	Particulars	Amount (Rs. In Lacs)		
		Corp. Off	Bhabanagar	Total
1.	Excavation of pits, benching works & cutting work etc.	- - -	8123169	8123169
1	Retaining Wall Exp	36501883	4512074	41013957
2	Material Supply	15424161	34665	15458826
3	Breast Wall Exp	11595143	1680508	13275651
4	Retention Bill of jyoti	30104730	0	30104730
5	Interest on Loan to HPPCL	3857633	0	3857633
6	Road Exp. Jeep able Road Pangl to Kasang	1331944	0	1331944
7	Cess charges	22472	0	22472
8	Forest Payment	13170222	4379465	17549687
9	Land Compensation	1288219	0	1288219
10	Advertisement Exp. Tender	52856	0	52856
11	Salary & Adm Exp	(-) 3768499	19018468	15249969
	Total	109580764	37748349	14,73,29,113

[Signature]
 Sr. Manager (Project)
 H.P.P.T.C.L. Division
 Bhaba Nagar (Kinnaur)

ANNEXURE-B

NAME OF SCHEME:- Revised estimate / scheme for "Construction of 220 KV D/C line from Kashang to Bhaba".

DETAILS AND ABSTRACT OF APPROXIMATE COST OF ADDITIONAL WORKS

(To be made for completion of Line).

Sr. No.	Particular	Approximate expenditure (Rs in Lac)	Remarks/ reference
1	Survey of Route for T-3 to T-5	0.92	Annuxre-B1
2	Consultancy & inspection	2.00	Annuxre-B1
3	Payment of tree coming in the rout - Balance payment to be given.	5.67	
4	Sub Total -1	8.59	
5	Electrical works		
a)	Dismantling of T-4	1.19	Annuxre-B1
b)	De-stringing of conductor in T-3 to T-4	2.10	Annuxre-B1
c)	Prov. & Stringing of conductor, Earth wire in T-3 to T-5	18.55	Annuxre-B1
d)	Prov. & Replacement of cross arm T-5	0.632	Annuxre-B1
e)	Prov. & Replacement of cross arm T - 75	1.542	Annuxre-B1
f)	Prov. & Repair of Gantry	5.89	Annuxre-B1
g)	Providing & Re-sagging of damaged conductor T-77-78, G-2 to 47, 47-48, 57-58, 82-83, 83-84, 84-85, T-1 to T-2, T-40-40A, 40A-41.	74.32	Annuxre-B1
h)	Prov. & Construction of New tower	37.942	Annuxre-B1
i)	Prov. & Replacement of damaged disc insulator and other hardware	9.00	L.S.
6	Sub Total of Electrical Works	151.166	
7	Civil works		
a)	Retaining wall at Tower No. 2	10.46	As per Annex. B1
b)	Civil Works Tower 40A	17.86	
c)	Breast wall at Tower No. 50	6.91	
d)	Retaining wall at Tower No. 51	0.60	
e)	Retaining wall at Tower No. 58	5.30	
f)	Retaining wall at Tower No. 61	3.50	
g)	Retaining wall at Tower No. 74	6.43	
h)	Retaining wall at Tower No. 79	7.95	
i)	Breast wall at Tower No. 82	6.58	
j)	Retaining wall/breast wall at Tower No. 83	15.80	

St. Kashang (Project)
 Project Director
 Kashang (Kashang)

22

k)	Tower 84 benching & revetment, stubbing	24.80	As per Annex. B1
l)	Remaining works at Tower 86	4.04	
m)	Tower 89 ground clearance	24.01	
n)	Retaining wall at Tower No. 97	6.85	
o)	Mandatory ground clearance being done by Jyoti	23.75	
p)	Replacement of broken bracing strengthening of bend legs	16.50	
8	Sub Total Civil Works :-	181.34	
9	Sub Total (6+8)	332.50	
10	Add 3% contingency charges	9.97	
11	Total (9+10)	342.47	
12	Add 11% Department charges	37.67	
13	Add 12.36% Service tax on Deptt. Charges	4.66	
14	Sub Total (11+12+13)	384.8	
15	Total (4+14)	393.39	
18	Pending payment of M/s Jyoti Structure Ltd. In Shimla RA-25	59.00 ✓	
20	Pending payment of M/s Jyoti Structure Ltd. In Shimla Service Tax	245.00 ✓	
	G.Total	697.39	

Sr. Manager (Project)
H.P.P.T.C.L. Division
Bhaba Nagar (Kinnaur)

NAME OF SCHEME:- Revised estimate / scheme for "Construction of 220 KV line from Kashang to Bhaba".

DETAILS AND ABSTRACT OF APPROXIMATE COST OF ADDITIONAL WORKS
(To be made for completion of Line).

1. Survey

a) Survey of route for Tower 3- Tower 5

This work was awarded to M/S Shardia Associates for Rs. 0.92 Lac

2. Consultancy & Inspection by Chief Electrical Inspector for the commissioning of line

a) An amount of Rs. 2.00 Lac is proposed toward fee, removal of bottle necks if any during the inspection.

3. Payment of tree coming in the rout

Sr. No.	Particular	Qty	Unit	Approx. Rate	Amount In lac
1	Private tree of category Class- I to Class-IV	176	Each	1517.00	2.67
2	Trees coming in forest land and on private land not enumerated Approximate Qty 150 trees	150	Each	2000.00	3.00
				Total:-	5.67

Since the payment calculated is Rs.2.67 Lac for the trees coming on the private land but the farmers are reluctant to receive money, even two letter are sent to them, saying the compensation is low. During the course of time size of trees is grown & forest trees along tower No 37 to 39, 72 to 76 and un enumerated tree are still to be removed, therefore a provision of Rs. 3.00 Lac is made extra.

4. Electrical works

a) **Dismantling of Tower No. 4 – Rs. 1.19 Lac.**

b) **De-stringing of conductor between Tower 3 to Tower 4 -**

At present the conductor is lying on the rope of span across river Satluj which is being used by the local people and the conductor is fallen on this span. Therefore these conductors required to be removed from the site which involve expenditure as below:-

Total span between Tower 3 to Tower 4.

Sr. Manager (Project)
H.P.P.T.C.L. Division
Bhaba Nagar (Kinnaur)

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In lac
1	De-stringing of 6 No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	460.00	Mtr	213785.0	0.98
2	De-stringing of one No. 7/3.15mm GSS ground wire	460.00	Mtr	91622.00	0.42
3	Transportation of conductor to store I/c manual labour	1380	Kg	25.00	0.35
	Total				1.75 Lac
	Price variation (to be add on IEEMA price variation) assuming 20%				0.35 lac
	Total				2.10

c. Stringing of conductor and GSS wire between TowerNo.3 to Tower No.5 (Tower No. 4 to be eliminated)

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In Lac
1	Stringing of 6 No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	680.00	Mtr	213785.0	1.45
2	Stringing of one No. 7/3.15mm GSS ground wire	680.00	Mtr	91622.00	0.62
3	Supply of conductor	680x6=4080	Mtr	320.87	13.09
4	Supply of earth wire	0.680	KM	43096	0.30
	Total				15.46
	Price variation (to be add on IEEMA price variation) assuming 20%				3.09
	Total				18.55

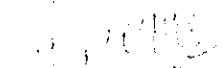
Sr. Manager (Project)
 P.P.T.C. Division
 Shahi Nagar (Kinnari)

d. Replacement of Cross arm at Tower No.5 .

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In lac
1	De-Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	302.00mtr	km	2.14/6	0.11
2	Supply of GI material of cross arm	0.785	Ton	0.66	0.52
	Total				0.63
3	Price variation (to be add on IEEMA price variation) assuming 20%				0.12
	Total				0.75
	Less cost of GI scrap	0.785	Ton	0.15	0.118
	Net Cost				0.632

e. Replacement of cross arm at Tower No. 75 .

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In lac
1	De-Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	426.00mtr T75-76=914 T75-74=292 Total =1206mtr	km	2.14/6	0.43
2	Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	426.00mtr T75-76=220 T75-74=206 Total =426mtr	Km	2.14/6	0.43
3	Supply of GI material of cross arm	0.785	Ton	0.66	0.52
	Total				01.38
4	Price variation (to be add on				0.28


 Sr. Engineer (Project)
 Electrical Division
 Central Power Corporation

26

	IEEMA price variation) assuming 20%				
	Total				1.66
	Less cost of GI scrap	0.785	Ton	0.15	0.118
	Net Cost				1.542

f. Replacement of Gantry G-2:-

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In lac
1	De-Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	T47-G48=84m G1-G2=66 m Total =150mtr	km	2.14/6	0.05
2	Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers	T47-G48=84m G1-G2=66 m Total =150mtr	Km	2.14/6	0.05
3	Supply of GI material of Gantry	9.0	Ton	0.66	5.94
	Total				6.04
4	Price variation (to be add on IEEMA price variation) assuming 20%				1.20
	Total				7.24
	Less cost of GI scrap	9.0	Ton	0.15	1.35
	Net Cost				5.89

g. Re-sagging of conductor

Sr. No.	Particular	Qty	Unit	Rate as per LOA	Amount In lac
1	De-Stringing of 1No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers T40 to T41 =781x6=4686m T-52 to T-53=516x1 =516m T57 to T58 =94x1 =94m	12.768	KM	2.14/6	4.55

Sr. Manager (Project)
H.P.P.T.C.L. Division
Bhaba Nagar (Kinnaur)

	T77 to T78=680x1=680m T82 to T83 =486x6 =2916m T83 to T84 =342x6 =2052m T84 to T85 =304x6 =1824m Total = 12768 m = 12.768 km				
2	Stringing of 1 No. ACSR Zebra conductor along with disc insulator, arching horn vibration dampers G kashang-T-1=50x6=300m T-1 To T-2 = 178x6=1068M T40 to T40A = 75x6 =450m T40A to T41 = 781x6 =4686m T-52 to T-53 =516x1 =516m T57 to T58 = 94x1 =94 T77 to T78=680x1 =680m T82 to T83 =486x6=2916 T83 to T84 =342x6=2052 T84 to T85 =304x6=1824 T100 to G-Nathapa = 250x6= 1500 m Total = 16086 m = 16.086 km	16.086	KM	2.14/6	5.74
3	Supply of conductor:- Total = 17.0 km Less available which can be used = 2.0 km Net required= 15.0 km	15KM	KM	3.21	48.15
4	Supply of Hardware material & GSS wire (L.S)	---	---		3.50
	Total				61.94
5	Price variation assuming 20% (to be add on IEEMA price variation)				12.38
	Total				74.32

h. Construction of new Towers

Sr. No.	Particular	Qty	Unit	LOA Rate	Amount In lac
1	Tower D type- 2 Nos.	28.56	Ton	0.66	18.84
3	Tower 83	11.08	Ton	0.66	7.31
4	Tower 84	11.08	Ton	0.66	7.31
5	Erection of Tower 1 &40A	2	each	1.31	2.62
6	Erection of Tower 83 &84	2	each	0.94	1.88
				Total	37.96

Sr. Manager (Project)
H.P.P.T.C.L. Division
Una Nagar (Kinnaur)

7	Price variation assuming 20% (to be add on IEEMA price variation)				7.59	
				Total	45.55	
	Less cost of GI scrap	50.72	Ton	0.15	7.608	
	Net Cost				37.942	

**i. Replacement of damaged disc insulators
and other hardware articles (L/S)**

Rs. 9.00 Lac.

5. Civil Works

a) Retaining wall at Tower No. 2

Sr. No.	Particular	Amount In Lac
1	Retaining wall 10 m high for leg A and B river side	10.46
	Total	10.46

b) Remaining work at Tower 40A

Sr. No.	Particular	Approx. Qty	Unit	Approx. Rate	Amount In Lac
1	Benching at Tower 40A	800.00	Cum	950.00	7.60
2	Retaining wall along Pit C & D	85.00	Cum	5600.00	4.76
3	Crate work to hold debris as below of this tower is National Highway and there is no space to put the stone nearby.				5.50
				Total:-	17.86

c) Tower No. 50

Sr. No.	Particular	Amount In Lac
1.	Breast wall	6.91
	Total	6.91

Sr. Manager (Project)
H.P.E.C.L. Division
Bharuwa (Kanchi)

d) Tower No. 51

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	0.60
	Total	0.60

e) Tower No. 58

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	5.30
	Total	5.30

f) Tower No. 61

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	3.5
	Total	3.5

g) Tower No. 74

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	6.43
	Total	6.43

h) Tower No. 79

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	7.95
	Total	7.95

i) Tower No. 82

Sr. No.	Particular	Amount In Lac
1.	Breast wall	6.58
	Total	6.58

j) Tower No. 83

Sr. No.	Particular	Amount In Lac
1.	Retaining/breast wall	15.80
	Total	15.80

Sr. Manager (Project)
H.P.P.T.C.L. Division
Bhaba Nagar (Kinnaur),

k) Remaining work at Tower 84

Sr. No.	Particular	Approx. Qty	Unit	Approx. Rate	Amount In Lac
1	Excavation (Stubbing)	80.00	Cum	1920.00	1.54
2	CC1:3:6	5.78	Cum	20431	1.18
3	CC 1: 1.5 :3	20.40	Cum	22400	4.57
4	steel	1610.95	Kg	65	1.05
5	Retaining wall along Pit C &D				5.50
6	CC work along Pit C &D				4.00
7.	Retaining wall above platform to cover chimney				6.96
				Total:-	24.80

l) Remaining work at Tower 86

Sr. No.	Particular	Approx. Qty	Unit	Approx. Rate	Amount In Lac
1	Balance qty to be paid against tender already	30.00	Cum	4800.00	1.44
2	Stone filing behind retaining wall	45	Cum	1200.00	0.54
3	Retaining wall proposed at leg A	43.00	Cum	4800.00	2.08
	Total				4.06

m) Remaining work at Tower 89

Sr. No.	Particular	Approx. Qty	Unit	Approx. Rate	Amount In Lac
1	Tender awarded for protection work for wedging out rock				4.98
2	Cutting of rock	1391.00	Cum	950.00	13.21
3.	Breast wall to protect leg C and D				6.50
				Total	24.69

n) Tower No. 97

Sr. No.	Particular	Amount In Lac
1.	Retaining wall	6.85
	Total	6.85

Sr. Manager (Project)
H.P.F.T.C.L. Division
Bhuba Nagar (Kinnaur)

o) For ground clearance being done by M/S Jyoti structure Ltd.

Sr. No.	Particular	Approx. Qty	Unit	Approx. Rate	Amount In lac
1	Balance Qty	2500	Cum	950	23.75

p) Strengthening of bended legs and replacement of broken Tower parts

Due to shooting stone and sliding of earth from hill side heavy snowing and rains some parts at the scattered tower location seems to be found bent or damaged. The detail is as under:-

Sr. No.	Particular	Qty	Unit	Market Rate	Amount In Lac
1	Providing extended Chimney at bend leg which shall be started from firm ground strata and up to the bent portion Max. 3.00mtr Height at one leg each in T-46,85,59,88,97 and two leg at T-62 where a LP Truck fell over tower leg during winter 2012. Size 1.8x1.00x3.6=6.48Cum CC1:2:4 @9000.00=58320.00 Steel 500 kg @85=42500.00 Total for each = Rs1,00,820.Say 1.10 _{lac}	7	Each	1.10	7.70
2	Replacement of broken and damaged part of tower at scattered location @ 0.80 _{lac} for each tower	11	Each	0.80	8.80
				Total:-	16.50

Sr. Manager (Project)
H.P.S.C.E. Division
Khaba Road (Almora)