



H.P.POWER TRANSMISSION CORPORATION LTD.
(A STATE GOVERNMENT UNDERTAKING)
BAROWALIA HOUSE KHALINI SHIMLA-171002.
: TEL: 0177 2626283, 2626284 (FAX), 2628284

No: HPPTCL/P&A/BOD/12- 1261

Dated:- 07-06-12

SUBJECT:-

**COPY OF BOD RESOLUTION PASSED IN ITS 15TH
MEETING VIDE AGENDA ITEM NO.15.07.**

ITEM NO:15.07:

Approval of Transmission Projects to be built by HPPTCL with the proposed financial assistance from ADB-Tranche-2 loan.

The proposal given in Memorandum for 13 Nos. Transmission Projects given in Table-I to be built by HPPTCL in Distt. Kinnaur, Shimla, Chamba, Kullu, Kangra and Mandi with the financial assistance from ADB (Tranche-II) was approved and following resolutions were passed.

“RESOLVED THAT the approval be and is hereby accorded to above 13 Nos. Transmission Projects as given in Table-I proposed to be built by HPPTCL in Distt. Kinnaur, Shimla, Chamba, Kullu, Kangra and Mandi with the financial assistance from ADB under Tranche-II and the DPRs of the Transmission Projects be sent to Ministry of Power, GoI/CEA for approval.”

Dr. Misra 11/6/12
SR.MANAGER [PERS. & ADMN.]
Sr. Manager (Pers. & Admn.)
HPPTCL, Khalini, Shimla-2

Table-I**(Amount in ₹ Crore)**

Sr.N	Name of Transmission Project	Estimated amount (₹ in Crore)	Distt.	Projects to be evacuated
1	a) 33 kV D/C line from 33 kV Palchan switching station to 33/220 kV sub station in the yard of Allain Dhuangan HEP	36	Kullu	Small Hydel Potential in Naggar valley (100 MW)
	b) 33 kV Switching station at Palchan	8.7	Kullu	
2	a) 66 kV Switching station at Urni	18.1	Kinnaur	Small HEPs of about 40 MW
	b) 66 kV D/C Line from 66 kV Switching station at Urni to Wangtoo Sub station	9	Kinnaur	
3	a) 33/220 kV, 50/63 MVA P.S at Lahal	66.1	Chamba	Small HEPs of about 60 MW
	b) 220 kV Line from 33/220 kV Lahal sub station up to 220 kV yard of Budhil HEP	12	Chamba	
4	132/220 kV, 2x100 MVA Pooling station at Sunda	97.8	Shimla	Tangnu Romai HEP (44 MW), Rupin (45 MW) HEP, Dhamwari Sunda (70 MW) HEP, Chirgaon Majhgaon (60 MW) HEP, Paudital Lassa (24 MW) HEP and Small HEPs in-Pabbar valley (46 MW), Rupin
5	220 kV D/C (Twin MOOSE) Transmission Line from Sunda to Hatkoti	76.9	Shimla	
6	220 kV Switching Station at Hatkoti	58.9	Shimla	

				valley (60 MW) and Andhra Khad (38 MW)
7	33/132 kV, 2x25/31.5 MVA sub station at Chambhi (Shahpur) with LILO of 132 kV Kangra-Dehra S/C Line	65	Kangra	45 MW of Small HEPs,
8	220 kV D/C line (Twin MOOSE) from Charor to 400/220 kV Banala sub station of PGCIL	50	Kullu	100 MW of Malana-II & 189 MW of Small HEPs
9	33/132 kV sub station at Pandoh with LILO of one circuit of 132 kV Kangoo- Bajaura Line	48.9	Mandi	35 MW of Small Hydel potential
10	a) 33/132 kV, 1x50/63 MVA sub station Banjal	41	Chamba	80 MW of Small HEPs in Churah valley
	b) 132 kV S/C line on D/C towers from Banjal to Kurthala	12	Chamba	
11	33/132 kV Sub Station at Barsaini	49	Kullu	58 MW of Small Hydel projects in Barsaini area
12	132 kV D/C line from Barsaini to 132/220 kV sub station at Charor	54	Kullu	
13	132/220 kV sub station at Charor	87	Kullu	100 MW of Malana-II & 189 MW of Small HEPs in Parvati valley
Total		₹ 790.4	Crore	

New works (Sr. No. 11 to 13) have been highlighted



केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
प्रणाली आयोजना एवं परियोजना मूल्यांकन प्रभाग
SP&PA Division



No. 8/20/SP&PA-12/ 610

Dated: 5th Jun, 2012

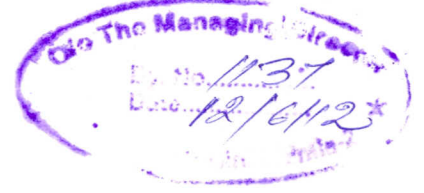
✓ General Manager (Planning & Contract)

HPPTCL,

Barowalias House, Khalini,

Shimla-171002

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Subject: DPRs of Transmission Projects under implementation by HPPTCL with financial assistance from ADB.

Sir,

This is in reference to your letter no. HPPTCL/TranchII/2012/1094 dated 26.05.2012 vide which DPRs of following transmission assets were submitted.

Sr. No.	NAME OF WORK	TOTAL (in Crore)
1	33 kV D/C line from 33 kV Palchan switchin station to 33/220 kV sub station in the yard of Allain Dhaungan HEP & 33 kV Switching station at Palchan	44.7
2	66 kV Switching station at Urni & 66 kV D/C Line from 66 kV Switching station at Urni to Wangtoo Sub station	27.4
3	33/220 kV, 50/63 MVA P.S at Lahal & 220 kV Line from 33/220 kV Lahal sub station up to 220 kV yard of Budhil HEP	67.4
4	220 kV Switching Station at Hatkoti	44.7
5	220 kV D/C (Twin MOOSE) Transmission Line from Sunda to Hatkoti	69.2
6	132/220 kV, 2x100 MVA Pooling Station at Sunda	77.0
7	33/132 kV, 2x25/31.5 MVA sub station at Chambi (Shahpur) with LILO of 132 kV Kangra- Dehra S/C Line	49.4
8	33/132 kV sub station at Pandoh+LILO of one circuit of 132 kV Bajaura-Kangoo D/C Line	41.9
9	220 kV D/C line (Twin MOOSE) from Charor to 400/220 kV Banala sub station of PGCIL	45.0
10	33/132 kV Sub Station at Barsaini	48.5
11	132 kV D/C line from Barsaini to 132/220 kV sub station at Charor	64.0
12	132/220 kV sub station at Charor	71.0
13	33/132 kV, 1x50/63 MVA sub station Banjal	38.4
14	132 kV S/C line on D/C towers from Banjal to Kurthala	20.6
	Total	709.2

M.D.	
Dir. (R&C)	
Dir. (P&C)	
G.M.	
G.M. (C)	
D.G.M.	
D.G.M.	
Sr. Mgr. (P&C)	

21/6

Sr M (8/20/12)

HPPTCL has requested CEA to examine the above projects as the Debt portion of total estimated cost is planned to be funded by ADB.

The DPRs of above works have been examined and our comments are enclosed.

Encl:- Annexure


(B.K.Sharma) 5/6/12
Director



केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
 प्रणाली आयोजना एवं परियोजना मूल्यांकन प्रभाग
SP&PA Division



DPRs for construction of transmission system in Himachal Pradesh under ADB package

HPPTCL have proposed for taking up following transmission works with ADB financing. These projects are located in Pabbar, Beas, Ravi and Satluj basin.

Sr. No.	NAME OF WORK	TOTAL (in Crore)
1	33 kV D/C line from 33 kV Palchan switching station to 33/220 kV sub station in the yard of Allain Dhaungan HEP & 33 kV Switching station at Palchan	44.7
2	66 kV Switching station at Urni & 66 kV D/C Line from 66 kV Switching station at Urni to Wangtoo Sub station	27.4
3	33/220 kV, 50/63 MVA P.S at Lahal & 220 kV Line from 33/220 kV Lahal sub station up to 220 kV yard of Budhil HEP	67.4
4	220 kV Switching Station at Hatkoti	44.7
5	220 kV D/C (Twin MOOSE) Transmission Line from Sunda to Hatkoti	69.2
6	132/220 kV, 2x100 MVA Pooling Station at Sunda	77.0
7	33/132 kV, 2x25/31.5 MVA sub station at Chambhi (Shahpur) with LILO of 132 kV Kangra- Dehra S/C Line	49.4
8	33/132 kV sub station at Pandoh+LILO of one circuit of 132 kV Bajaura-Kangoo D/C Line	41.9
9	220 kV D/C line (Twin MOOSE) from Charor to 400/220 kV Banala sub station of PGCIL	45.0
10	33/132 kV Sub Station at Barsaini	48.5
11	132 kV D/C line from Barsaini to 132/220 kV sub station at Charor	64.0
12	132/220 kV sub station at Charor	71.0
13	33/132 kV, 1x50/63 MVA sub station Banjal	38.4
14	132 kV S/C line on D/C towers from Banjal to Kurthala	20.6
	Total	709.2

The total estimated cost on these works has been worked out to be Rs 709.2 crores including IDC. Brief detail of each of the projects and our comments are given below:

1. 33 kV D/C line from 33 kV Palchan switching station to 33/220 kV sub station in the yard of Allain Dhaungan HEP & 33 kV Switching station at Palchan

It has been indicated that 33 kV switching station at Palchan would cater to evacuate power from Palchan Valley of Beas basin of Himachal Pradesh. Total approx power to be evacuated through this substation is around 57 MW. Two no of 33 kV line bays and one bus coupler bays have been provided in this switching station. Power from this switching station shall be evacuated through 33 kV D/c line up to the 33/220 kV yard of AD Hydro.

At present 220 kV AD hydro- Nalagarh D/c line is a dedicated line of M/s ADHPL. HPPTCL will have to take up the matter with M/s ADHPL for their injection of power in this line in accordance with existing regulations before implementing this work.

2. 66 kV Switching station at Urni & 66 kV D/C Line from 66 kV Switching station at Urni to Wangtoo Sub station

It has been indicated in DPR that 66 kV switching station at Urni would cater to evacuate power of Small Hydro Projects in Sangla Valley of Satluj basin of Himachal Pradesh. Total approx power evacuated through this substation is around 40 MW. Two no of 66 kV line bays and one bus coupler bays have been provided in switching station. Power from this switching station shall be evacuated through a 66 kV D/c line up to the 66/220/400 kV Wangtoo Pooling Station. It shall be further evacuated through 400 kV D/c Wangtoo – Abdullapur line. The above scheme is generally in order.

3. 33/220 KV, 50/63 MVA P.S at Lahal & 220 kV Line from 33/220 kV Lahal sub station up to 220 kV yard of Budhil HEP

HPPTCL has proposed 220/33 kV GIS substation for the purpose of evacuation of 66 MW power from Bharnour Valley of Ravi Basin in H.P. Out of 65.8 MW power, 15 MW is expected to utilized for meeting the local area demand. One 33/220 kV, 63 MVA ICT, one 220 kV line bay, one 220 kv bus coupler bay and one transformer bay. It also includes 5 nos 33 kV line bays, one 33 kV bus coupler bay and one 33 kV transformer bay included in substation works. Power from 220/33 kV Lahal PS shall be evacuated through 220 kV Lahal – Budhil line and shall be terminated at 220 kV Budhil power house switchyard and from their to the regional grid, PGCIL Chamera PS, later on Lahal pooling station will be upgraded to 400 kV level and would be connected to Chamera pooling station through 400 kV D/c line. The above works is as per comprehensive master plan evolved for evacuation of power from different river valley projects in Himachal Pradesh and is generally in order.

4. 220 kV Switching Station at Hatkoti

It has been indicated that the Sub-station would be required to evacuate around 456 MW power from different HEP's of Pabbar Valley of HPPCL and IPP's like Sawara Kuddu(111 MW),Tangu Romai (44 MW),Dhamwari Sunda(70 MW) etc. through 220 kV Switching Station at Hatkoti. Power from 220 kV switching station shall be evacuated to 400/220 kV Gumma S/S by 220 kV Hatkoti – Gumma D/c (Twin Moose)line and further to ISTS system by LILO of one ckt of 400 kV Naphtha Jhakri-Abdullapur line of PGCIL.

Provision of 4 nos of 220 kV line bays and one no 220 kV bus coupler bay has been made in the scope of Hatkoti 220 kV switching station. The above work is a part of proposed system approved during 29th meeting of standing committee on power system planning of Northern Region under Long Term Access (LTA) to HPPCL for evacuation of power from Sawara Kuddu HEP (111 MW) and also included in the Transmission System as agreed by CEA and as per comprehensive master plan evolved for evacuation of power from different river valley projects in Himachal Pradesh and is generally in order

5. 220 kV D/C (Twin MOOSE) Transmission Line from Sunda to Hatkoti :-

In order to evacuate 232 MW of power from Tangnu, Andhra and Rupin vallies and other HEPs such as Chirgaon, Majhgaon(60MW), Paudital Lassa(24 MW), Dhamwari Sunda (70 MW) awarded to various IPPs by HP Govt., a 220 kV D/c Sunda- Hatkoti line with twin moose conductor has been proposed. Power from 220 kV Hatkoti switching station shall be evacuated to 400/220 kV Gumma S/S by 220 kV Hatkoti – Gumma D/c (Twin Moose) line and further to ISTS system by LILO of one ckt of 400 kV Naphtha Jhakri-Abdullapur line of PGCIL. The above scheme as per comprehensive master plan evolved for evacuation of power from different river valley projects in Himachal Pradesh and is generally in order.

6. 132/220 kV, 2x100 MVA Pooling Station at Sunda:-

In order to evacuate 232 MW (out of which 38 MW of power would be evacuated in future through a 66/220 kV, 50/63 MVA ICT) of power from Tangnu, Andhra and Rupin vallies awarded to various IPPs by HP Govt, 132/220 kV Pooling Station at Sunda proposed. Out of balance 194 MW power, 20 MW is expected to be utilized locally. The provision of 2 nos 132/220 kV 100 MVA transformer, 2 no, 220 kV line bays one no 220 kV bus coupler and 2 no 220 kV transformer bays and also 2no; 132 kV transformer bays, 1 no 132 kV bus coupler have been made. Power from this pooling station shall be evacuated through 220 kV Sunda – Hatkoti D/c line. The above pooling station is as per comprehensive master plan evolved for evacuation of power from different river valley projects in Himachal Pradesh and has been approved by the BoD of HPPTCL, is generally in order.

7. 33/132 kV, 2x25/31.5 MVA sub station at Chambi (Shahpur) with LILO of 132 kV Kangra- Dehra S/C Line:-

In order to evacuate 42.4 MW of power from small hydel projects in Shahpur area in Beas basin 33/132 kV substation at Chambi has been proposed. Power from this substation shall be evacuated by LILO of 132 kV Kangra – Dehra line. The provision of 2 nos 33/132 kV 31.5 MVA transformer, 2 nos 132 kV line bay, 1 no 132 kv bus

coupler, 2 no 132 kV transformer bay and also 2 no 33 kV transformer bay and 1 no 33 kV bus coupler have been made.

The above scheme has been approved by the BoD of HPPTCL and is generally in order.

8. 33/132 kV sub station at Pandoh+LILO of one circuit of 132 kV Bajaura-Kangoo D/C Line :-

In order to evacuate 54 MW of power from small hydel projects in Shahpur area in Beas basin 33/132 kV substation at Pandoh has been proposed. Power from this substation shall be evacuated by LILO of 132 kV Bajaura- Kangoo D/C Line. The provision of 2 nos 33/132 kV 31.5 MVA transformer, 2 nos 132 kV line bay, 1 no 132 kv bus coupler, 1 no 132 kV transformer bay and also 1no 33 kV transformer bay and 1 no 33 kV bus coupler have been made. In the first instance only 1 no 31.5 MVA, 33/132 kV Transformer are proposed to be installed and later on as per the progress of other projects, 2nd 31.5 MVA transformer shall be installed.

The above scheme has been approved by the BoD of HPPTCL and is generally in order.

9. 220 kV D/C line (Twin MOOSE) from Charor to 400/220 kV Banala sub station of PGCIL:-

In DPR it is indicated that to evacuate 289 MW of power from small HEPs in Parbati Valley including 100 MW of Malana –II , 220 kV D/C line (Twin MOOSE) from Charor to 400/220 kV Banala sub station of PGCIL proposed.

However in 30th meeting of Standing Committee on Power System Planning of Northern Region it was decided that Charor – Parbati pooling station 220 kV D/c line would be implemented by M/s Everest Power as dedicate line. Now HPPTCL has desired to implement this line with higher size conductor to enable them to inject generation from small hydro projects identified in the area. This issue shall be taken up in next standing committee meeting on power system planning of Northern region for approval. HPPTCL may take up the above works for implementation subject to Standing Committee approval.

10. 33/132 kV Sub Station at Barsaini :-

In order to evacuate 58 MW of power from small hydel projects in Barsaini area in Beas basin 33/132 kV substation at Barsaini has been proposed. Power from this substation shall be evacuated by 132 kV Barsaini – Charor line up to proposed 132/220 kV Charor substation. Power shall be further evacuated through proposed 220 kV Charor – Banala line to ISTS point. The provision of 2 nos 33/132 kV 31.5 MVA transformer, 2 nos 132 kV line bay, 1 no 132 kv bus coupler, 2 no 132 kV transformer bay and also 2 no 33 kV transformer bay and 1 no 33 kV bus coupler have been made. Out of 58 MW power, 8 Mw power is expected to be utilised locally.

The above scheme has been approved by the BoD of HPPTCL, HPPTCL may take up this work for implementation subject to approval of Standing Committee for works mentioned at S.No 9 above.

11. 132 kV D/C line from Barsaini to 132/220 kV sub station at Charor:-

Power from 33/132 kV substation at Barsaini substation shall be evacuated through proposed 132 kV Barsaini – Charor line. Power shall be further evacuated from 132/220 kV Charor substation by proposed 220 kV Charor – Banala line to ISTS point

The above scheme has been approved by the BoD of HPPTCL, HPPTCL may take up this work for implementation subject to approval of Standing Committee for works mentioned at S.No 9 above.

12. 132/220 kV sub station at Charor :-

In order to evacuate 189 MW of power from small hydel projects in Parbati Valley of Beas basin 132/220 kV substation at Charor has been proposed. Out of 189 MW power, 14 MW of power is expected to be utilized for meeting local demand. Power from this substation shall be evacuated by 220 kV Charor- Banala line up to Banala Pooling station. The provision of 1 nos 132/220 kV 100 MVA transformer, 2 nos 220kV line bay, 1 no 220 kv bus coupler, 1 no 220kV transformer bay and also 2 no 132 kV line bays, 1 no 132 kV transformer bay and 1 no 132 kV bus coupler have been made. The 189 MW power will come in phased manner. Initially one 100 MVA ICT will be installed and augmentation of 2nd ICT will be done as per firming up of generation projects.

The above scheme has been approved by the BoD of HPPTCL and is generally in order.

13. 33/132 kV, 1x50/63 MVA sub station Banjal :-

In order to evacuate 81 MW of power from small hydel projects in Churah Valley of Ravi basin 33/132 kV substation at Banjal has been proposed. Power from this substation shall be evacuated by 132 kV proposed Banjal – Kurthala line. 3 Nos. 31.5 MVA, 33/132 kV Transformer are proposed to be installed in sub-station. In first instance 1 nos 33/132 kV 31.5 MVA transformer, 1 nos 132 kV line bay, 1 no 132 kv bus coupler, 1 no 132 kV transformer bay and also 1 no 33 kV transformer bay and 1 no 33 kV bus coupler have been made. Later on as per progress of other generation projects 2nd and 3rd ICTs will be installed.

The above scheme has been approved by the BoD of HPPTCL and is generally in order.

14. 132 kV S/C line on D/C towers from Banjal to Kurthala :-

Power from 33/132 kV substation at Banjal substation shall be evacuated through proposed 132 kV Banjal – Kurthala line. Power shall be further evacuated from 33/132 kV Kurthala substation by 132 kV Kurthala – Bathri line up to 132/220 kV substation proposed at Mazra which shall further connected to ISTS point 220/400 Chamara Pooling station through 220 kV substation Karian.

The above scheme has been approved by the BoD of HPPTCL and is generally in order.

COST ASPECT

The total estimated cost of the above works as indicated in the DPR is around Rs 709.2 crores at price level of December 2011 based on the various works awarded by HPPTCL vide no. HPPTCL/contracts/ADB/Bhoktoo/2011-6465-70 dated 23/12/2011 and HPPTCL/contracts/ADB/Bhoktoo/2011-6471-76 dated 23/12/2011. This includes IDC and other charges. HPPTCL has indicated that works would be awarded through competitive bidding process. As such the price of works may be restricted to the actual bid price, discovered.