CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 37/TT/2011

Coram:-
Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A. S. Bakshi, Member

Date of Hearing: 13.11.2014
Date of Order : 07.05.2015

In the matter of

Petition under Sections 79(1)(c) and (d) read with Section 2(36)(ii) of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for approval of transmission tariff for Transmission System associated with evacuation of power from Karcham Wangtoo Hydro Electric Project for tariff block 2009-14 period.

And in the matter of:

Jaypee Powergrid Limited
'JA ' House, 63, BasantLok,
Vasant Vihar,
New Delhi – 110057 **………….Petitioner**

Vs

1. Jaypee Karcham Hydro Corporation Limited,
   Sector-128, Noida-201 304,
   Uttar Pradesh (India)

2. Himachal Sorang Power Limited,
   C-35, Lane II, Sector-1, New Shimla (HP)

3. Government of Himachal Pradesh,
   Through Secretary, Department of Power,
   H.P. Secretariat, Armsdale Building,
   Shimla-171 002

4. Jaiprakash Power Ventures Limited,
   Sector-128, Noida-201 301, Uttar Pradesh

5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Shimla-171 001

6. Satluj Jal Vidyut Nigam Limited,
Himfeb Building, New Shimla,
Shimla-171 009

7. Power Grid Corporation of India Limited,
"Saudamini", Plot No.-2, Sector-29,
Gurgaon-122 001, Haryana

8. POSOCO Limited,
B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110 016

9. Rajasthan Power Procurement Centre,
Vidyut Bhawan, Vidyut Marg,
Jaipur- 302 005

10. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur-302 024

11. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur-302 024

12. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur-302 024

13. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004

14. Punjab State Electricity Board,
The Mall, Patiala-147 001

15. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134 109

16. Power Development Department,
Govt. of Jammu and Kashmir,
Mini Secretariat, Jammu-180 001

17. UP Power Corporation Limited,
Shakti Bhawan, 14, Ashok Marg,
Lucknow-226 001

18. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110 002

19. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place,
New Delhi-110 019

20. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi-110 019

21. North Delhi Power Limited,
Power Trading & Load Dispatch Group,
Cennet Building, Adjacent to 66/11kV Pitampura-3,
Grid Building, Near PP Jewellers,
Pitampura, New Delhi-110 034

22. Chandigarh Administration,
Sector-9, Chandigarh-160 009

23. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun-248 001

24. North Central Railway,
Allahabad-211 003

25. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110 002 **….Respondents**

For petitioner **:** Shri Vishal Gupta, Advocate, JPL
Shri Sanjiv Goel, JPL
Shri Kapil Ahuja, JPL
Shri Ashish Gupta, JPL
Shri Vinay Sharma, JPL

For respondents: Shri M.G. Ramachandran, Advocate, JPGL

ORDER

The instant petition has been by filed by Jaypee Powergrid Limited (JPL)for approval of transmission charges for Transmission System associated with evacuation of power from Karcham Wangtoo Hydro Electric Project (hereinafter referred to as "transmission assets") located in the State of Himachal Pradesh to Abdullapur Sub-station located in the State of Haryana in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (the 2009 Tariff Regulations).

2. The applicant is a joint venture company promoted by Jaiprakash Power Ventures Limited (74%) and Power Grid Corporation of India Limited (PGCIL) (26%) incorporated under the Companies Act, 1956. The Karcham Wangtoo HEP is being developed by a group company of the applicant. The applicant has proposed the transmission system primarily for evacuation of power from Karcham Wangtoo HEP to Abdullapur Sub-station located in the State of Haryana for its onward transmission to the beneficiary States in the Northern Region.

3. The Feasibility cum Detailed Project Report for the transmission system associated with this project was prepared by PGCIL during May, 2007 and approved by the petitioner company in its Board meeting held on 18.2.2008. The total estimated cost of the Project is ₹88198 lakh including IDC of ₹8930 lakh (based on 4th quarter 2006 price level). The total estimated completion cost is ₹98100 lakh including IDC of ₹9585 lakh. The scope of work under the proposed scheme includes the following:-

A. Transmission lines:-

a) Karcham Wangtoo HEP-Abdullapur 400 kV D/C T/L (Quad Conductor): 230 km (Snow portion: 165 km and non-snow portion: 65 km)

b) LILO of both circuit of Baspa-Nathpa Jhakri 400 kV D/C line (Triple Snowbird) at Karcham Wangtoo HEP : 4 km

B. Sub-stations:-

a) Abdullapur Sub-station (Ext.) (PG) 400 kV with 2 nos. of 400 kV line bays;

b) Karcham Wangtoo generation switchyard (Ext.) JKHCL with two nos. of 80 MVAR line reactors.

4. The details of assets covered in the instant petition are as under:-

<table>
<tr><th>Name of the asset</th><th>Scheduled date of commercial operation</th><th>Actual date of commercial operation</th></tr>
<tr><td>LILO of both circuit of Baspa-Nathpa Jhakri 400 kV DC line (Triple Snowbird) at Karcham Wangtoo HEP : 4 km. (hereinafter referred to as "Asset-I)</td><td rowspan="2">1.9.2011</td><td>1.6.2011.</td></tr>
<tr><td>Karcham Wangtoo HEP-Abdullapur 400 kV DC T/L (Quad Conductor) along with associated bays at Abdullapur Sub-station: 230 km (Snow Portion 165 km and non-snow portion 65km) (hereinafter referred to as "Asset-II")</td><td>1.4.2012</td></tr>
</table>

5. The petitioner had made an application for grant of transmission license to undertake the business of establishing, commissioning, setting up, operating and maintaining the 400 kV D/C transmission system (hereinafter "the transmission system") comprising of the following elements, namely:-

(a) LILO of 400 kV D/C Baspa-Nathpa Jhakri transmission line at Wangtoo;

(b) 400 kV D/C Karcham Wangtoo-Abdullapur transmission line (Quad conductor); and

(c) 400/220 kV sub-station (Extension) (PGCIL) at Abdullapur

6. The Commission while granting transmission licence, vide order dated 17.8.2007 in Petition No. 44/2007 observed that the transmission system proposed by the applicant will be available for evacuation of power from other generating stations located in the Satluj river basin, and granted transmission license to the petitioner for the following assets:-

(a) LILO of 400 kV D/C Baspa-Nathpa Jhakri transmission line at Wangtoo;

(b) 400 kV D/C Karcham Wangtoo-Abdullapur transmission line (Quad conductor); and

(c) 400/220 kV Sub-station (Extension) (PGCIL) at Abdullapur

7. The provisional annual transmission charges for the period 2009-14 were allowed for the instant transmission assets under Regulation 5(4) of the 2009 Tariff Regulations vide order dated 14.6.2012.

8. The petitioner has claimed the transmission charges in the instant petition as follows:-

(₹ in lakh)

Particulars	**Asset-I**			**Asset-II**	
	2011-12	**2012-13**	**2013-14**	**2012-13**	**2013-14**
Depreciation	102.54	125.63	128.23	5006.01	5118.38
Interest on Loan	151.21	191.47	167.18	8156.72	7165.85
Return on Equity	116.53	142.78	147.48	5692.99	5890.89
Interest on Working Capital	6.31	9.40	9.07	464.61	450.69
O & M Expenses	4.20	4.44	4.70	533.80	585.35
Total	**380.79**	**473.72**	**456.66**	**19874.13**	**19211.16**

9. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)

Particulars	Asset-I			Asset-II	
	2011-12	2012-13	2013-14	2012-13	2013-14
Maintenance Spares	0.63	0.67	0.70	83.07	87.80
O & M expenses	0.35	0.37	0.39	46.15	48.78
Receivables	63.47	78.95	76.11	78.95	76.11
Total	64.45	79.99	77.20	208.17	212.69
Interest	6.31	9.40	9.07	9.40	9.07
Rate of Interest	11.75%	11.75%	11.75%	13.50%	13.50%

10. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. Reply has been filed by Himachal Sorang Power Limited (HSPL), Respondent No. 2, vide affidavit dated 14.3.2012, Government of Himachal Pradesh, Respondent No. 3, vide affidavit dated 11.11.2014 and Jaiprakash Power Ventures Limited (JPVL), Respondent No. 4, vide affidavit dated 26.4.2012. The petitioner has not filed any rejoinder to the replies filed by the respondents.

11. We have heard the representatives of the petitioner present at the hearing and have perused the other material available on record. We proceed to dispose of the petition.

12. During the hearing on 1.4.2014, the representative of Punjab State Power Corporation Limited (PSPCL) submitted that provisional tariff granted by the Commission has been included in the Point of Connection (PoC) charges and it is borne by PSPCL as per the Central Electricity Regulatory Commission (Sharing of Inter-State

Transmission Charges and Losses) Regulations, 2010 (2010 Sharing Regulations). Hence, PSPCL should be impleaded as a respondent along with other beneficiaries in the Northern Region. Accordingly, the petitioner was directed to implead all the beneficiaries in Northern Region as respondents in the instant petition and serve a copy of the petition and subsequent information filed by the petitioner to all the beneficiaries of Northern Region. The petitioner has vide affidavit dated 25.9.2014 submitted that it has impleaded all the beneficiaries of NR and a copy of petition along with subsequent information filed by it has been served on all the beneficiaries.

13. HSPL has submitted that the petitioner has erroneously included assets that it should not have included within the asset pool and is wrongly seeking to recover the costs of such assets through tariff under the instant petition.

14. JPVL vide affidavit dated 25.4.2012 has submitted that the transmission line from Baspa-II to Nathpa Jhakri was never a dedicated transmission line. A memorandum of understanding was executed between the Government of Himachal Pradesh and Jaiprakash Industries Limited (JIL) on 23.11.1991 for the implementation of hydroelectric power generation project at Baspa-II (300 MW). Thereafter, pursuant to the said MOU the Government of Himachal Pradesh and JIL entered into an agreement for the implementation of Baspa-II project on 1.10.1992. The said agreement was assigned by JIL to one if its subsidiaries i.e. Jaiprakash Hydro Power Limited (JHPL) with the consent of Government of Himachal Pradesh. A tripartite agreement between Government of Himachal Pradesh, JIL and JHPL was executed in this regard on 17.10.1995. JPVL has further submitted that the CEA accorded Techno-economic

clearance to the project vide its letter dated 29.4.1994. This clearance included the construction of transmission line from the project to Nathpa Jhakri switchyard. Hence, JHPL was granted permissions and approvals by the Government of Himachal Pradesh to own, establish, maintain and operate the project of Baspa-II generating station which included the owning, establishing, operating and maintaining the transmission line from Baspa-II to Nathpa Jhakri. Therefore, the Baspa-Nathpa Jhakri line was established, operated and maintained by JHPL as a main transmission line and not as a dedicated transmission line. Further, as per agreement dated 1.10.1992 the said line can also be utilized for evacuation of power from any other generation project established or to be established in the area. The said Baspa-Nathpa Jhakri line was connected to inter-connection facility of NTPC and was fed into Northern Grid for Inter-State transmission. Since Baspa-Nathpa Jhakri line was connected to the inter-connection facility built, owned, operated and maintained by CTU and the part of the power transmitted through it was for the purpose of inter-State transmission, the said line became inter-State transmission line. In the mean time another subsidiary company of JPL namely Jaypee Karcham Hydro Corporation Limited (JKHCL) was executing a 1000 MW hydro electric project at Karcham Wangtoo which was earlier scheduled to be commissioned in the year 2010. In the year 2002, CEA gave clearance to PGCIL to construct a LILO on the said line at Karcham Wangtoo to evacuate power from the Karcham Wangtoo project after its commissioning as the said transmission line had the capacity available for such evacuation and the transmission line envisaged primarily for Karcham Wangtoo project. The Commission vide its order dated 1.10.2007 in Petition No. 44/2007 granted Inter-State transmission licence to JPL, with the permission to construct a LILO on the said line. After the construction of LILO the transmission line from Karcham Wangtoo to Nathpa Jhakri still remains an Inter-State transmission line as it is connected to the inter-connection facility of the CTU and power is evacuated through it from Kracham Wangtoo Project for inter-State transmission.

15. During the hearing on 13.11.2014, the Commission directed the CTU to file the information regarding premise under which Karcham-Abdullapur line was converted from a dedicated line to ISTS, which other generators were given access and whether BPTA was signed with these generators and the status of these generators.

16. In response, CTU vide affidavit dated 27.2.2015 has submitted that in July 2006, PTC India Limited applied for Long Term Open Access (LTOA) for evacuation and transfer of 704 MW power from Karcham Wangtoo HEP to various beneficiaries of Northern Region as per 2004 Tariff Regulations. The transmission system for evacuation of power from Karcham Wangtoo HEP was discussed with CEA and Northern Region constituents. Keeping in view, the future hydro potential and RoW constraints, following transmission was proposed and agreed for Karcham Wangtoo HEP:-

(i) LILO of Nathpa-Jhakri-Baspa 400 kV D/C line at Karcham Wangtoo

(ii) Karcham Wangtoo-Abdullapur 400 kV D/C (Quad Conductor)

Based on the discussions, LTOA intimation was given on 1.5.2007. As per the intimation, the Karcham Wangtoo-Abdullapur line was to be constructed as dedicated line. Subsequently, JPL had applied for transmission licence and while granting the transmission license to JPL, the Commission in its order dated 17.8.2007 in Petition No.

44/2007 had stated that the proposed transmission system shall not be treated as a dedicated transmission system.

17. CTU has further submitted that the transmission system for Karcham Wangtoo HEP was planned in an integrated manner with the transmission system of Nathpa Jhakri HEP. The total capacity to be evacuated from the area is about 6000 MW out of which about 3200 MW have already been commissioned (Nathpa Jhakri HEP-1500 MW, Karcham Wangtoo HEP-1000 MW, Baspa HEP-300 MW and Rampur HEP-412 MW). The projects for which connectivity/LTA has already been agreed are given below:-

(i) Sorang HEP: 100 MW

(ii) Kashang HEP: 195 MW

(iii) Shongtong HEP: 450 MW

The connectivity/LTA application for other projects in upstream of Karcham Wangtoo is yet to be received. For evacuation of power from these projects, margins available on Karcham Wangtoo-Abdullapur 400 kV D/C (Quad) line would be utilized. On the subject line, Baspa, Karcham Wangtoo and Sorang HEPs are being evacuated for which BPTA has been signed. In addition to Karcham Wangtoo HEP and other commissioned projects mentioned above, about 3000 MW of identified hydro potential is to be evacuated through this corridor. The corridor has serious Right of Way constraints and margins available in the system shall also be utilized for evacuation of power from this corridor for future hydro projects. Accordingly, considering the expected power transfer requirement through the corridor, the transmission system 400 kV D/C (Quad) was planned as it was the technically optimal alternative considering Right of

Way Constraints. The same has also been recorded in the LTOA Meeting held on 3.11.2006.

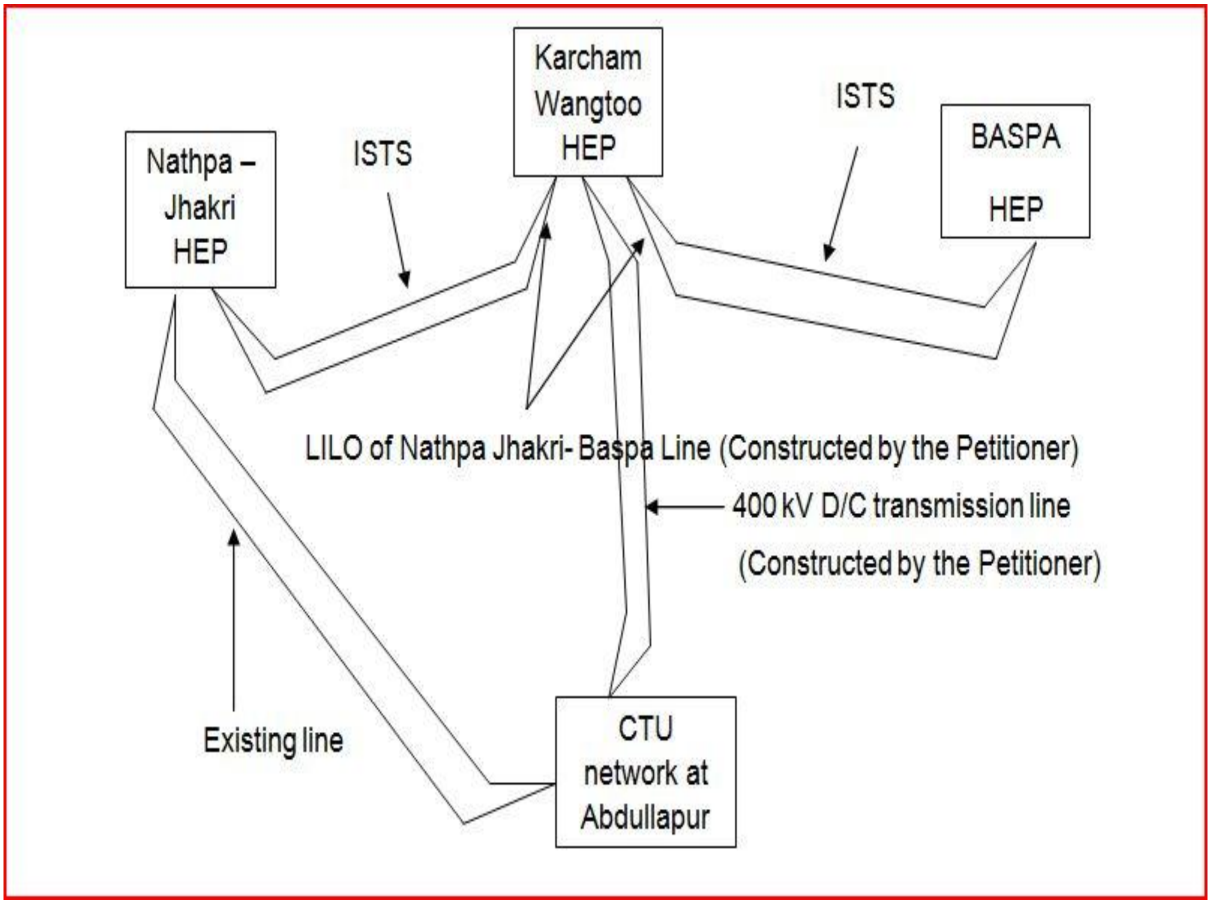
18. We have considered the submission of petitioner and respondents. The Commission vide order dated 17.8.2007 in Petition No. 44/2007 for grant of license, decided that the proposed transmission system shall not be treated as the "dedicated" transmission system. The relevant extract of the order is as under:-

> "25. Before parting, we propose to make some observations, considered essential in the context of the applicant's proposal. The applicant had made application for grant of licence for the "dedicated" transmission lines. The term "dedicated transmission lines" is defined under sub-section (16) of the Section 2 of the Act as under:-
>
>> "dedicated transmission lines" means any electric supply-line for point to point transmission which are required for the purpose of connecting electric lines or electric plants of a captive generating plant referred to in Section 9 or generating station referred to in section 10 to any transmission lines or sub-stations or generating stations, or the load centre, as the case may be."
>
> 26. As the transmission system proposed by the applicant will be available for evacuation of power from other generating stations located in the Satluj river basin, the proposed transmission system shall not be treated as the "dedicated" transmission system."

19. The Commission decided in the above said order that the proposed transmission system is not a dedicated transmission system. Hence, we are of the view that the above said transmission system is treated as inter-State transmission system.

20. The said planned transmission system for evacuation of power from Karcham-Wangtoo HEP was discussed and agreed to in the 22nd meeting of the Standing Committee on Power System Planning of Northern Region held on 12.3.2007.

21. The schematic diagram of the system is given overleaf:-



22. The Commission, vide letter dated 29.4.2014, had directed the petitioner to clarify its position regarding the number of bays considered in the petition as license was granted for only 2 bays, whereas Form-2 submitted vide affidavit dated 20.12.2013 mentions 3 bays at Abdullapur Sub-station. In response, the petitioner vide affidavit dated 25.9.2014 submitted that it has inadvertently considered a tie bay at Abdullapur Sub-station as main bay while filing final tariff petition on 20.12.2013 but now the same is being rectified and only 2 main bays have been considered at Abdullapur Sub-station. The petitioner has further submitted that it owns and maintains 2 main bays on the outgoing Karcham Wangtoo-Abdullapur 400 kV D/C transmission line at Wangtoo Sub-

station. Accordingly, 4 nos. of bays have been considered for the purpose of tariff calculation.

23. Further, during the hearing on 26.4.2012 the Commission directed the petitioner to clarify whether the reactors form part of the generation switchyard, because this was agreed in the LTOA meeting to be part of the dedicated transmission system. In response, the petitioner, vide affidavit dated 18.5.2012 has submitted that line reactors are part of the asset built, owned and operated by the petitioner and form part of the switchyard. During the proceedings of LTOA with Northern Region constituents on 3.11.2006, the proposal for granting open access to the beneficiaries of KWHEP was discussed and it was clearly stipulated that associated bays at both ends would be part of the transmission system and all the cost towards this would be borne by the transmission line developers. Further, in the LTOA meeting held on 12.3.2007, it was agreed that the line reactors would be provided at Wangtoo end as a part of the transmission system.

24. We have considered the submission of the petitioner and respondents. It is noted that the proposal for granting open access to the beneficiaries of KWHEP was discussed during LTOA meetings held on 3.11.2006 and 12.3.2007. The LTOA for the transmission system related to KWHEP was discussed during the above meetings as a dedicated system which was to be built by the project developer (generator). Subsequently, the petitioner was granted transmission license for the transmission system for evacuation of power from KWHEP, which included the extension of sub-station only at Abdullapur. Accordingly, only two bays at Abdullapur Sub-station shall

be considered in the instant petition for tariff calculation. The two bays and the line reactors at KWHEP switchyard shall be a part of generation system.

Capital cost

25. Regulation 7 of the 2009 Tariff Regulations so far as relevant provides as under:-

"(1) Capital cost for a project shall include:-

(a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii)being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff."

26. The petitioner has provided the apportionment of original estimated cost in revised Form 5B submitted vide affidavit dated 25.9.2014. Details of apportioned approved cost, the actual capital cost as on date of commercial operation and projected additional capital expenditure as claimed by the petitioner are summarized overleaf:-

(₹ in lakh)

Asset	Apportioned approved cost as per Form 5B	Estimated completion cost claimed by the petitioner as per Auditor Certificate dated 24.9.2014*					Initial spare	
		Actual cost as on DOCO	Additional capital expenditure for			Total estimated completion cost as on 31.3.14	TL	SS
			2011-12	2012-13	2013-14			
Asset-I	1601.00	2477.63	-	-	-	2477.63	-	-
Asset- II	96504.00	95331.56	-	2314.43	513.95	98159.94	622.33	53.83
Total	**98105.00**	**97809.19**	**-**	**2314.43**	**513.95**	**100637.57**	**622.33**	**53.83**

* Capital cost is inclusive of initial spares and liabilities.

27. HSPL vide affidavit dated 14.3.2012 has submitted that the petitioner has wrongly sought to recover the impact of escalation of cost owing to delay in commissioning of the transmission system, which is unreasonably high. The Government of Himachal Pradesh vide affidavit dated 11.11.2014 has submitted that the capital cost of the transmission line seems to be on higher side in comparison to benchmark cost finalized by the Commission. Government of Himachal Pradesh has also submitted that additional ROE may not be allowed as the transmission line was not completed within the stipulated time. Further, there was no separate financing and allocation for Asset-I & II and hence the details provided by the petitioner may be verified. The Government of Himachal Pradesh has further submitted that the petitioner is not having the item wise cost details of the equipment used and the same should have been obtained by the petitioner from the contractor. The transmission tariff for the LILO line alongwith Inter-Connecting Facility (ICF), at Karcham may not be allowed but the capital cost of this LILO line would be included in the capital cost of the project on the same analogy of being considering the capital cost of double circuit 400 kV line from Baspa to Nathpa Jhakri including share of ICF at Jhakri part of capital cost of Baspa-

Hydro Electric project. We have considered the issues raised by the respondents. As regards the issue of treatment of LILO and ICF raised by the Government of Himachal Pradesh, we are of the view that it is not relevant as the petitioner has already been granted transmission licence for the LILO portion and inter-State power is flowing through the petitioner's LILO and ICF.

Time over-run

28. The transmission system was scheduled to be executed in 42 months from the zero date i.e. date of first Letter of Award (LOA). The first LOA was issued to the erection contractor on 18.2.2008. Accordingly, the scheduled completion was 18.8.2011 (i.e. date of commercial operation on 1.9.2011) against this the Asset-I was commissioned on 1.6.2011 and Asset-II was commissioned on 1.4.2012. Accordingly, there is no time over-run in case of Asset-I, however time over-run of 7 months in case of Asset-II.

29. The Commission, vide "Record of Proceeding" dated 26.4.2012, directed the petitioner to submit detailed justification for time over-run with documentary evidence and steps taken to obtain forest clearance, with documentary evidence. The petitioner vide affidavit dated 20.12.2013 has submitted the following reasons for the time over-run:-

a) Right of Way (RoW) issues:-During the construction of transmission line, the petitioner encountered numerous RoW issues for which court proceedings were initiated in March, 2010 and the relief orders were received only in August, 2011.

b) Problems due to harvesting seasons:-Substantial part of the line is laid across the orchard where construction workers were not allowed to enter during harvest season. The petitioner's staff and contractors were subjected to physical violence and a number of court cases were filed against the construction of this line, which took time. The petitioner has submitted summary of court cases along with copies of relevant documents vide affidavit dated 20.12.2013.

c) Forest Clearance:-The application for getting authorization for diversion of forest land for non-forest purpose was filed on 5.2.2008. The approval for the same was received only on 21.7.2009. As a result, the forest authorities allowed the work only after 21.7.2009. A copy of the approval dated 21.7.2009 has been submitted by the petitioner vide affidavit dated 20.12.2013.

d) Unprecedented adverse weather:-The region witnessed unprecedented weather conditions including heavy snowfall, rainfall, landslides, less working time in rainy and snow season and other natural calamities, which impacted the initiation and/or continuation of work. The petitioner has submitted newspaper clippings and some weather reports for the same period indicating unfavorable weather conditions vide affidavit dated 20.12.2013.

30. We have considered the documentary evidence submitted by the petitioner in respect of delay in commissioning of Asset-II (Karcham Wangtoo HEP-Abdullapur 400 kV D/C T/L along with associated bays). The petitioner, vide affidavit dated 20.12.2013, has submitted details of court cases and orders passed by court in respect of delay due to RoW, newspaper cuttings in support of adverse weather condition in the region and

documents in support of delay in getting forest clearances. On perusal of the documents submitted by the petitioner, it is observed that the delay of 7 months caused in completion of Asset-II was mainly due to delay in court proceedings and RoW issues, adverse weather conditions in the region and delay in getting forest clearance. Accordingly, the reasons mentioned herein above are not attributable to the petitioner and accordingly the time over-run of 7 months in completion of Asset-II is condoned.

Cost over-run

31. The completion cost of Asset-I and Asset-II are ₹2477.63 lakh and ₹98159.94 lakh against the estimated completion cost ₹1601 lakh and ₹96504 lakh respectively. Hence, there is a cost over-run of ₹876.63 lakh (55%) in respect of Asset-I and ₹1655.94 lakh in respect of Asset-II (2%). However, the overall completion cost of Asset-I and Asset-II together is ₹100637.57 lakh. Accordingly, there is cost over-run of ₹2532.57 lakh (2.5%) on overall basis.

32. During the hearing on 20.3.2012, HSPL has submitted that there is variation between the project cost and the benchmark cost of the transmission system of similar configuration and requested that the tariff should be determined based on the bench mark cost in the interest of the consumers.

33. We have considered the submission of the petitioner and the respondent. The petitioner has provided the information required for calculation of capital cost like number of different types of towers, type of terrain, insulator type, voltage level, conductor configuration, wind zone and line length etc. It is observed that the transmission lines covered herein are passing through plain, hilly (non-snowbound) and

snowbound regions. The Commission has specified the benchmark cost for lines in Plain and Hilly terrain. However, as per data provided by PGCIL, cost of line of similar configuration is ₹344 lakh/km without including financing charges. The petitioner has incurred substantial amount towards compensation for tree/crop and forest. Accordingly, the cost incurred by the petitioner seems reasonable.

34. The petitioner was directed vide “Record of Proceedings” dated 13.11.2014 to submit the Revised Cost Estimates (RCE) approved by its Board and the justifications for cost over-run in case of Asset-I. The petitioner vide affidavit dated 10.12.2014 has submitted the Board approved revised completion cost of the project comprising LILO of 400 kV D/C Baspa-Nathpa Jhakri transmission line and Karcham Wangtoo-Abdullapur 400 kV D/C quad transmission line at ₹101500 lakh and additional cost to be met by internal sources. The petitioner has further submitted that there was no separate contract for LILO (Asset-I) as it was included in construction package of Asset-I. Therefore, the total cost of transmission line (Asset-II) and LILO (Asset-I) may be considered for comparing it with the estimated cost. The cost over-run is attributable to increase in compensation paid to forest authorities, increased IDC which is mainly due to early phasing of funds vis-a-vis the estimated phasing and time over-run, which, on account of for the reasons like adverse weather conditions and various court cases. The petitioner submitted that the factors are beyond its control.

35. We have considered the submission of the petitioner. It is observed that the petitioner awarded the contract for both LILO and transmission line in same package and has requested to consider total cost of LILO and transmission line for comparing it

with the estimated cost. Further, the petitioner's Board has approved revised completion cost of the project comprising LILO of 400 kV D/C Baspa-Nathpa Jhakri transmission line and Karcham Wangtoo-Abdullapur400 kV D/C quad transmission line at ₹101500 lakh. However, the petitioner did not submit any other details of RCE. Therefore, in the absence of detailed RCE, the capital cost of transmission assets is restricted to the original apportioned approved cost as submitted in revised Form-5B. However, the capital cost of the individual transmission assets shall be reviewed at the time of truing-up, subject to the petitioner filing the detailed RCE and justification for cost over-run. This approach has been upheld by the Appellate Tribunal for Electricity in its order dated 28.11.2013 in Appeal No. 165 of 2012, and subsequently the Commission, vide its order dated 18.2.2014 in Petition No. 216/TT/2012, has considered the apportioned approved cost of individual asset for restricting the capital expenditure due to cost over-run for the purpose of tariff determination. The same approach has been adopted in the instant case and the capital expenditure claimed has been restricted to apportioned approved cost.

36. Accordingly, the excess of estimated completion cost over and above the approved apportioned cost for Asset-I and Asset-II are computed and adjusted as given hereunder:-

(₹ in lakh)

Asset	**Apportioned Cost as per Revised Form 5B submitted vide affidavit dated 25.9.2014****	**Completion cost up to 31.3.2014 as specified in Auditor certificate dated 24.9.2014**	**Cost over-run w.r.t. original estimates**	**Adjustment details**

Asset-I	1601.00	2477.63	876.63	Adjusted: 1) ₹680.48 lakh from capital cost as on date of commercial operation 2) ₹97.89 lakh from ACE of 2011-12 3) ₹98.26 lakh from ACE of 2013-14
Asset-II	96504.00	98159.94	1655.94	Adjusted from ACE of 13-14
Total	**98105.00**	**100637.57**	**2532.57**	

** Asset wise cost given in Form-5B.

Capital cost disallowed

37. The petitioner has submitted that ₹184 lakh has been incurred towards company formation expenses and fees for increase in authorized capital which were completely written off in the books of account in the financial year 2010-11 itself. According to the petitioner, these expenditure were not included in the capitalization as per accounting practice and the said expenses are not the part of capital of Assets-I and II on the date of capitalization but the same has been considered as cash outflow and included in the capital cost claimed for tariff. The Government of Himachal Pradesh has submitted that the statutory expenses of ₹184 lakh claimed by the petitioner is not justified and may not be allowed.

38. As ₹184 lakh was not considered for capitalisation, this expenditure of ₹184 lakh has not been considered as part of capital cost for the purpose of tariff calculations.

39. The petitioner has considered 4 bays (2 bays each at Abdullapur Sub-station and Wangtoo Sub-station) and 2 line reactors at KWHEP switchyard but the license granted to the petitioner included only two bays at Abdullapur Sub-station. Therefore, the cost of 2 bays and 2 line reactors shall be deducted from the capital cost of Asset-II. As per Form-5B, submitted by the petitioner vide affidavit dated 25.9.2014, the total cost of sub-station is ₹1816 lakh (including IDC & IEDC) excluding cost of compensating

equipment (reactor and SVC). The cost of reactors is ₹1648 lakh (excluding IDC & IEDC). The petitioner has claimed 4 bays in substation, whereas licence was granted only for 2 bays. Therefore, half of total cost of sub-station amounting to ₹908 lakh (i.e. 50% of ₹1816 lakh) is being deducted from the capital cost as on the date of commercial operation of Asset-II. Further, the claim towards reactors amounting to ₹1648 lakh and the corresponding pro-rata IDC and IEDC of ₹939.45 lakh is also deducted from the capital cost as on date of commercial operation of Asset-II. However, the petitioner is directed to submit the actual IDC and IEDC pertaining to disallowed reactors/bays at the time of truing-up.

40. We have considered the submission of the petitioner and respondents towards statutory expenses. We are of the view that statutory expenses are not the part of capital cost and hence, shall be deducted from the total capital cost submitted by the petitioner. The disallowed costs as on the date of commercial operation are as under:-

(₹ in lakh)

Particulars	Amount
Expenses towards Company formation and increase in Authorised capital	184.00
half of total cost of Sub-station	908.00
cost of reactors	1648.00
Pro-rata IDC & IEDC of cost of reactors	939.45
Total	**3679.45**

IDC and Finance charges

41. The apportioned IDC cost as per original estimate and the IDC claimed as per auditor certificate dated 24.9.2014 are summarized overleaf:-

(₹ in lakh)

Particulars	IDC & FC as per Original Estimate as per Form 5B	IDC&FC as on actual date of commercial operation vide Auditor certificate dated 24.9.2014	Increase of IDC	Increase in IDC from the original estimate.
Asset-I	128.00	274.46	146.46	114.42%
Asset -II	9805.00	16032.00	6227.00	63.51%
Total	**9933.00**	**16306.46**	**6373.46**	**64.16%**

The petitioner has also claimed an amount of ₹63.59 lakh as IDC on the additional capital expenditure of the year 2012-13 for Asset-II.

42. There is an increase of 64.16% in overall IDC vis-à-vis the original estimate. During the hearing on 13.11.2014, the petitioner was directed to submit the reasons for the increase in IDC and for claiming IDC and IEDC after the date of commercial operation. The petitioner, vide affidavit dated 10.12.2014, submitted that the IDC claimed by the petitioner as additional capital expenditure pertain to the period before the date of commercial operation. It is just that the claims towards them were raised and are being paid in the later period i.e. after commercial operation date. The petitioner further submitted that that the increase in IDC is mainly attributable to two factors viz. early phasing of funds vis-a-vis the estimated phasing and time over-run. It is observed that the IDC claimed after date of commercial operation does not seem to be pertaining to the period before date of commercial operation. Had it been so, these would be forming part of the liabilities as on date of commercial operation. Accordingly, IDC after the date of commercial operation of Asset-II amounting ₹63.59 lakh is not allowed.

43. The other reason given by the petitioner for increase in IDC is the early phasing of funds and it is not justified. The petitioner had submitted Form-6, Form-13, Form-14

and Form-14A combined for Asset-I and Asset-II. During the hearing on 13.11.2014, the petitioner was directed to submit these forms separately for Asset-I and Asset-II. However, the petitioner has not submitted these Forms as directed and has stated that, there is no separate financing for Asset-I and Asset-II and therefore it is not possible to show allocation of Gross Loan and its deployment between Asset-I and Asset-II in Forms-6, 13, 14 and 14A. The petitioner has further submitted that, the IDC was allocated between Asset-I and Asset-II based on the direct cost attributable to them on the date of commercial operation of Asset-I, thereafter all the IDC paid was totally on account of Asset-II.

44. However, in the absence of asset wise information, the allocated IDC of ₹274.00 lakh as indicated in auditor certificate dated 5.12.2014 has been considered for Asset-I. The capitalized borrowing cost for the year 2012-13 is shown as ₹15810.21 lakh for Asset-II, whereas the IDC claimed as per auditor's certificate is ₹16032.00 lakh. Hence, for Asset-II, the capitalized borrowing cost has been considered as IDC and FC cost for the purpose of determining capital cost as on date of commercial operation. Accordingly, the amount of ₹221.79 lakh (i.e. ₹16032.00 lakh - ₹15810.21 lakh) has been reduced from the IDC claimed as on date of commercial operation for Asset-II.

45. The petitioner is directed to submit a detailed analysis on the increase of IDC from its original estimates due to time over-run, due to increase in cost of debt and due to early phasing of fund etc. along with the revised cost estimates at the time of submission of truing up petition. The justification of the petitioner for not submitting the asset wise loan allocation is not acceptable. Accordingly, the petitioner is further

directed to submit the Form-6, Form-13, Form-14 and Form-14A separately for Asset-I and Asset-II after allocating the loan between Asset-I and Asset-II, at the time of filing the true-up petition.

IEDC

46. The petitioner has claimed IEDC of ₹288.93 lakh and ₹18580.89 lakh as on the date of commercial operation for Asset-I and Asset-II respectively. The petitioner has also claimed IEDC of ₹298.21 lakh and ₹178.81 lakh for Asset-II on the additional capital expenditure for the years 2012-13 and 2013-14 respectively.

47. During the hearing on 13.11.2014, the Commission directed the petitioner to submit the reason for claiming IEDC after the date of commercial operation. In response, the petitioner vide affidavit dated 10.12.2014, submitted that, the IEDC (forest compensation) being claimed by the petitioner as additional capital expenditure pertains to the period before commercial operation date. It is just that the claims towards them were raised and are being paid in the later period i.e. after date of commercial operation. The petitioner has submitted auditor's certificate dated 24.9.2014 indicating the compensation cost for Asset-II as ₹12980.77 lakh as on date of commercial operation and ₹208.93 lakh and ₹10.06 lakh during 2012-13 and 2013-14 respectively.

48. We have considered the submissions made by the petitioner. The forest compensation paid in case of Asset-II after date of commercial operation is being allowed as additional capital expenditure for the period 2012-13 and 2013-14. Therefore, the excess of IEDC claimed after date of commercial operation other than

the forest compensation paid has been disallowed. The details of IEDC disallowed in case of Asset-II are as follows:-

(₹ in lakh)

Year	IEDC claimed after date of commercial operation	Forest compensation (included in IEDC) being allowed as additional capital expenditure	additional capital expenditure being disallowed
(a)	(b)	(c)	(d)=(b)-(c)
2012-13	298.21	208.93	89.28
2013-14	178.81	10.06	168.75

<u>Initial Spares</u>

49. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capital expenditure of initial spares in respect of transmission system as under:-

> **"8. Initial Spares.** Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:
>
> XXXX
>
> (iv) Transmission system
>
> (a) Transmission line - 0.75%
>
> (b) Transmission Sub-station - 2.5%
>
> (c) Series Compensation devices and HVDC Station - 3.5%
>
> (d) Gas Insulated Sub-station (GIS) - 3.5%
>
> Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of Regulation 7, such norms shall apply to the exclusion of the norms specified herein."

50. The Commission had directed the petitioner to furnish the Auditor's certificate to certify the initial spares for Asset-I and Asset-II. However, the petitioner has submitted

Auditor's certificate dated 5.12.2014 for Asset-II only. As no Auditor certificate has been provided by the petitioner regarding the initial spare for Asset-I (i.e. for LILO portion), the claim of initial spare for Asset-I is considered as nil. As per the Auditor's certificate, the initial spares included in capital cost of Asset-II is ₹622.33 lakh for transmission line and ₹53.83 lakh for sub-station. Based on the capital cost allowed in the instant petition, the claims of initial spare are within the limit specified in the 2009 Tariff Regulations.

Un-discharged Liabilities

51. The petitioner has submitted liability flow statement vide affidavit dated 25.9.2014 for both of the assets. These statements consist of the details of liabilities pertaining to the capital cost as on the date of commercial operation, liability pertaining to the additional capital expenditure, the actual payment of liability during 2011-12, 2012-13 and the projected payment of liability during 2013-14. The liabilities/retention money outstanding as on the date of commercial operation has been deducted from the capital cost as on the date of commercial operation of the concerned asset. On payment of these liabilities, the same has been allowed as additional capital expenditure under Regulation 9(1)(i) of 2009 Tariff Regulations as given hereunder:-

(₹ in lakh)

Liabilities flow for Asset-I				
Liabilities reduced from capital cost		**Allowed as additional capital expenditure under Regulation 9(1)(i)**		
		Paid during 2011-12	**Paid during 2012-13**	**Estimated payment during 2013-14**
As on date of commercial operation	196.15	97.89	-	98.26

(₹ in lakh)

Liabilities flow for Asset-II			
Liabilities reduced from capital cost		Allowed as Additional Capital Expenditure under Regulation 9(1)(i)	
		Paid during 2102-13	Estimated payment during 2013-14
As on date of commercial operation	1428.08	966.56	461.52
Add cap 2012-13	1806.55	0.00	1708.29 **
	Total	**966.56**	**2169.81**

** After considering liability reversal of ₹98.26 lakh against Asset-I.

Allowed Capital Cost as on DOCO

52. The capital cost as on date of commercial operation considered for both of the assets are as follows:-

(₹ in lakh)

Capital cost allowed as on date of commercial operation						
1	2	3	4	5	6	7 =(2-3-4-5-6)
Assets	**Capital Cost as on date of commercial operation claimed by petitioner**	**Excess Initial spares disallowed**	**IDC & IEDC disallowed**	**Disallowed cost**	**Liabilities**	**Capital cost as on date of commercial operation allowed for tariff calculation**
Asset-I	2477.63	-	-	680.48	196.15	1601.00
Asset-II	95515.56**	-	221.79	3679.45	1428.08	90186.24
Total	**97993.19**	-	**221.79**	**4359.93**	**1624.23**	**91787.24**

**Inclusive of ₹184 lakh claim towards statutory expenses

Projected Additional Capital Expenditure

53. Clause (1) of Regulation 9 of the Tariff Regulations provides as under:-

"Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities;
(ii) Works deferred for execution;

(iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
(v) Change in Law:"

54. Clause (11) of Regulation 3 of Tariff Regulations defines "cut-off" date as under:-

"cut-off date" means 31st March of the year closing after 2 years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation".

Therefore, the cut-off date for Asset-I is 31.3.2014 and Asset-II is 31.3.2015.

55. The additional capital expenditure claimed by the petitioner and considered for the purpose of tariff calculations are as follows:-

(₹ in lakh)

Asset-I: Additional Capital Expenditure			
	2011-12	**2012-13**	**2013-14**
ACE Claim for payment of liabilities Regulation 9 (1)(1)	97.89	-	98.26
Less: Excess of completion cost over and above original approved apportioned cost	97.89	-	98.26
Additional capital expenditure considered for tariff computation	**0.00**	**-**	**0.00**

(₹ in lakh)

Asset-II: Additional Capital Expenditure		
	2012-13	**2013-14**
Additional capital expenditure Claimed as per Auditor certificate	2314.43	513.95
Less: Liabilities included in the above Additional capital expenditure	1806.55	-
Less: Disallowed IDC Claim on Additional capital expenditure	63.59	-
Less : Disallowed IEDC Claim on Additional capital expenditure	89.28	168.75
ACE claim on Cash basis towards pending work: Regulation 9 (1)(2)	355.01	345.20
Add: Additional capital expenditure Claim for payment of liabilities Regulation 9 (1)(1)	966.56	2169.81
Total Additional Capital Expenditure	1321.57	2515.01
Less: Excess of completion cost over and above original approved apportioned cost	-	1655.94
ACE Considered for Tariff computation	**1321.57**	**859.07**

Capital Cost with Additional Capital Expenditure considered for tariff:-

56. The capital cost considered for the purpose of tariff computation from date of commercial operation of concerned assets to 31.3.2014 is as under:-

(₹ in lakh)

Capital Cost considered for tariff from date of commercial operation to 31.3.2014					
Assets	**Capital Cost as on date of commercial operation**	**Additional capital expenditure for 2011-12**	**Additional capital expenditure for 2012-13**	**Additional capital expenditure for 2013-14**	**Total capital cost as on 31.3.2014**
Asset-I	1601.00	-	-	-	1601.00
Asset-II	90186.24	-	1321.57	859.07	92366.88
Total	**91787.24**	**-**	**1321.57**	**859.07**	**93967.88**

Debt- equity ratio

57. Regulation 12 of the 2009Tariff Regulations provides as under:-

> "12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
>
> Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:
>
> Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.
>
> **Explanation-** The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.
>
> (2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.
>
> (3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

58. The petitioner has not submitted the details of debt-equity ratio for Asset-I and Asset-II separately. The petitioner has submitted Form-6 (Financial package up to date of commercial operation), indicating the details of funding pattern for both the assets combined, as on date of commercial operation of Asset-II, which is given below:-

(₹ in lakh)

For Asset-I & Asset-II combined				
Particulars	**Apportioned Approved Cost**		**as on date of commercial operation**	
	Amount	**%**	**Amount**	**%**
Debt	70000.00	70.00	68001.00	70.00
Equity	30000.00	30.00	29200.00	30.00
Total	**100000.00***	**100.00**	**97201.00**	**100.00**

* However, a revised Form 5B was subsequently filed vide affidavit dated 25.9.2015. According to which approved cost is ₹98105 lakh.

59. The petitioner, in Form-14A of the petition, has submitted total funds available for both the assets combined as on date of commercial operation of Asset-II as ₹97201.00 lakh and the actual cash expenditure incurred on both the assets combined as on the date of commercial operation of Asset-II as ₹97170.04 lakh. However, the claimed combined capital cost, as on the date of commercial operation on cash basis is worked out as ₹96368.96 lakh (₹97993.19 lakh - ₹1624.23 lakh). Hence, for the purpose of determination of debt-equity ratio, the claimed combined capital cost as on the date of commercial operation on cash basis amounting to ₹96368.96 lakh and the details of combined loans drawn amounting to ₹68001.00 lakh as shown in Form-13 of the petition has been considered. The equity deployment has been arrived as balancing

figure. Accordingly, the debt-equity ratio as on date of commercial operation has been worked out as follows:-

(₹ in lakh)

Claimed combined capital cost on cash basis as on date of commercial operation	Debt	Equity (balancing figure)	Debt-equity ratio (as on date of commercial operation)
96368.96	68001.00	28367.96	70.56 : 29.44

60. It is assumed that the entire combined loan, as on the date of commercial operation of Asset-II, amounting to ₹68001 lakh has been sourced to meet the capital cost on as on the date of commercial operation on cash basis for both the assets.

61. As the date of commercial operation of Asset-I and II was 1.6.2011 and 1.4.2012 respectively, it is not possible to determine the debt-equity mix of individual assets as on respective dates of commercial operation. Thus, as stated above, in the absence of individual debt-equity details, the above ratio computed on combined basis has been considered on capital cost as on the date of commercial operation of Asset-I and II, and additional capital expenditure of Asset-I for 2011-12.

62. The petitioner has submitted that, there is no separate financing for additional capital expenditure. However, as per the combined additional capital expenditure claimed on cash basis and combined loan drawn during 2012-13 amounting to ₹1999 lakh, the combined debt-equity ratio has been computed for considering the debt-equity ratio for additional capital expenditure as giver overleaf:-

(₹ in lakh)

Year	Combined additional capital cost claimed on cash basis	Debt*	Equity (balancing figure)	Debt-equity ratio considered as per 2009 Tariff Regulations for both the assets
2012-13	1474.44	1474.44	0.00	100 : 00
2013-14	2782.02	524.56	2257.46	70 : 30
Total	**4256.46**	**1999.00**		

* It is assumed that the loan of ₹1999.00 lakh drawn during 2012-13 has been sourced to meet entire additional capital expenditure of ₹1474.44 lakh for 2012-13 and the balance of ₹524.56 lakh has been utilised to source the additional capital expenditure of 2013-14.

63. In view of the above, the debt-equity ratio as on 31.3.2014 for Asset-I and Asset-II works out as 70.56:29.44 and 70.55:29.45 respectively. However, the petitioner is directed to submit debt-equity ratio details as on the date of commercial operation and additional capital expenditure for both the assets separately at the time of truing-up.

Return on equity (RoE)

64. Regulation 15 of the 2009 Tariff Regulations provides as under:-

"15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be:

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where t is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee as the case may be, shall recover the shortfall or refund the excess Annual Fixed charge on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission;
Provided further that Annual Fixed charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations".

65. The petitioner has claimed an additional RoE of 0.5% and the petitioner was directed, vide letter dated 29.4.2014, to furnish the reasons for claiming 0.5% additional RoE. In response, the petitioner vide affidavit dated 25.9.2014 has submitted that the investment approval was accorded for the project on 18.9.2007 and subsequently the first letter of award on 18.2.2008. The schedule date of completion of the project is 42 months from the zero date, which works out to 18.8.2011. The petitioner has submitted that despite severe RoW issues and uncontrollable adversities, the petitioner was able to commission Asset-I on 1.6.2011, much before the scheduled date of completion. The petitioner has submitted that in spite of many unanticipated hindrances, the petitioner was able to commission Asset-II on 1.4.2012, after a delay of only 227 days from scheduled date of completion. The Government of Himachal Pradesh submitted that the petitioner's claim for 16% RoE is not justified considering the fact that the said line was not completed within the stipulated time.

66. We have considered the submission of petitioner and respondents. As per the 2009 Tariff Regulations, all the elements of the transmission systems need to be

completed within the time schedule specified in Appendix II for grant of additional RoE. There is time over-run of 7 months in case of Asset-II and hence the petitioner's claim of 0.5% additional RoE is not admissible. This view has been upheld by the Appellate Tribunal of Electricity in its judgment dated 10.5.2012 in Appeal No. 155/2011.

67. The petitioner has submitted the tax rate applicable (MAT rate) to the petitioner company for the year 2011-12, 2012-13 and 2013-14 is 20.008%, 20.008% and 20.961% respectively and has prayed to take into consideration these rates.

68. We have considered the submissions of the petitioner. As per the 2009 Tariff Regulations, the MAT/Corporate Income Tax Rate for the year 2008-09 are to be applied for the purpose of calculating RoE. However, we have considered the MAT rates of the respective years as these are available and petitioner has prayed for it. Thus, there is a minor variation vis-a-vis the 2009 Tariff Regulations. The MAT rates submitted by the petitioner are in line with Finance Acts of relevant years, therefore these rates have been considered for grossing up of base rate. The rate of RoE for both the assets has been worked out accordingly and they are as follows:-

(₹ in lakh)

Particulars	**Asset-I**			**Asset-II**	
	2011-12 (pro-rata)	**2012-13**	**2013-14**	**2012-13**	**2013-14**
Opening Equity	471.28	471.28	471.28	26547.96	26547.96
Addition due to ACE	0.00	0.00	0.00	0.00	257.72
Closing Equity	471.28	471.28	471.28	26547.96	26805.69
Average Equity	471.28	471.28	471.28	26547.96	26676.82
ROE (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate applicable	20.01%	20.01%	20.96%	20.01%	20.96%
Rate of ROE (Pre Tax)	19.377%	19.377%	19.611%	19.377%	19.611%
ROE (Pre Tax)	**76.10**	**91.32**	**92.42**	**5144.20**	**5231.49**

Interest on Loan (IOL)

69. Regulation 16 of the 2009 Tariff Regulations provides as under:-

"16. **Interest on loan capital** (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

70. The interest on loan has been worked out as detailed below:-

(i) The gross normative loan of concerned assets has been arrived based on the allowed capital cost and the debt-equity ratio considered as above;

(ii) The normative repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period;

(iii) Details of actual loans, their interest rates and repayment schedules have been considered as per the petition;

(iv) The petitioner has not submitted the Form-13 separately for Asset-I and Asset-II. Therefore, the Weighted Average Rate of Interest (WARoI) has been computed based on the combined loan data provided by the petitioner; and

(v) WARoI on actual average loan as per the petition has been applied on the normative average loan during the year to arrive at the interest on loan.

71. Interest on loan has been worked out as detailed below:-

(₹ in lakh)

Particulars	**Asset-I**			**Asset-II**	
	2011-12 (pro-rata)	**2012-13**	**2013-14**	**2012-13**	**2013-14**
Gross Normative Loan	1129.72	1129.72	1129.72	63638.28	64959.85
Cum. repayment up to previous year	-	70.44	154.98	-	4785.82
Net Loan-Opening	1129.72	1059.27	974.74	63638.28	60174.03
Addition due to additional capital expenditure	-	-	-	1321.57	601.35
Repayment during the year	70.44	84.53	84.53	4785.82	4843.39
Net Loan-Closing	1059.27	974.74	890.21	60174.03	55931.98
Average Loan	1094.49	1017.01	932.47	61906.15	58053.00
WAROI	11.912%	12.402%	12.029%	12.4024%	12.0290%
Interest	**108.65**	**126.13**	**112.17**	**7677.86**	**6983.20**

Depreciation

72. Regulation 17 of the 2009 Tariff Regulations provides as under:-

> “17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
>
> (2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.
>
> Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;
>
> Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.
>
> (3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
>
> (4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:
>
> Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.
>
> (5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.
>
> (6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”

73. The depreciation for all assets has been computed in accordance with the Regulation 17 of 2009 Tariff Regulations. The instant assets were commissioned on 1.6.2011 and 1.4.2012 and will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method at rates

specified in Appendix-III of the 2009 Tariff Regulations. Accordingly, depreciation has been worked out on the basis of capital expenditure allowed.

74. Details of depreciation worked out are given as under:-

(₹ in lakh)

Particulars	Asset I			Asset II	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Opening Gross Block	1601.00	1601.00	1601.00	90186.24	91507.81
Addition during 2009-14 due to Projected Additional Capitalisation	-	-	-	1321.57	859.07
Gross Block	1601.00	1601.00	1601.00	91507.81	92366.88
Average Gross Block	1601.00	1601.00	1601.00	90847.03	91937.35
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2680%	5.2681%
Depreciable Value	1440.90	1440.90	1440.90	81762.32	82743.61
Remaining Depreciable Value	1440.90	1370.46	1285.92	81762.32	77957.79
Depreciation	**70.44**	**84.53**	**84.53**	**4785.82**	**4843.39**

Operation & Maintenance Expenses (O&M Expenses)

75. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies the norms for O&M Expenses for the transmission system based on the type of sub-station and the transmission line. The O&M Expenses shall be admissible as follows:-

(₹ in lakh)

S. No	Asset	Description (Line Length/ No. of bays)	O&M Expenses		
			2011-12	2012-13	2013-14
1	LILO of both circuit of Baspa-Nathpa Jhakri 400 kV D/C line at Karcham Wangtoo HEP	4 km	2.34	2.96	3.13
2	400 kV D/C Karcham Wangtoo-Abdullapur transmission line	219.8 km	-	244.20	258.05
3	400 kV Bays at Abdullapur	2 nos. of 400 kV bays	-	123.83	130.92

Interest on Working Capital

76. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months of fixed cost. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. Accordingly, one month's O&M expenses have been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation after 1.4.2009 shall be equal to State Bank of India Base Rate as applicable on 1st April of the year of commercial operation plus 350 bps. The rate of Interest on Working Capital for Asset-I has been considered @ 11.75% (i.e. SBI Base rate 8.25% as on 1.4.2011+350 basis points) and the rate considered for Asset-II is 13.50% (i.e. SBI Base rate @ 10% as on 1.4.2012 + 350 basis points)

77. Necessary computations in support of interest on working capital are as follows:-

(₹ in lakh)

Particulars	**Asset-I**			**Asset-II**	
	2011-12 (pro-rata)	**2012-13**	**2013-14**	**2012-13**	**2013-14**
Maintenance Spares	0.42	0.44	0.47	55.20	58.35
O & M expenses	0.23	0.25	0.26	30.67	32.41
Receivables	52.55	51.85	49.70	3066.92	2976.86
Total	53.20	52.54	50.43	3152.80	3067.62
Rate of Interest	11.75%	11.75%	11.75%	13.50%	13.50%
Interest	**5.21**	**6.17**	**5.93**	**425.63**	**414.13**

Transmission charges

78. The transmission charges being allowed for the transmission assets are summarized hereunder:-

(₹ in lakh)

Asset-I				**Asset-II**	
Particulars	**2011-12**	**2012-13**	**2013-14**	**2012-13**	**2013-14**
Depreciation	70.44	84.53	84.53	4785.82	4843.39
Interest on Loan	108.65	126.13	112.17	7677.86	6983.20
Return on equity	76.10	91.32	92.42	5144.20	5231.49
Interest on Working Capital	5.21	6.17	5.93	425.63	414.13
O & M Expenses	2.34	2.96	3.13	368.03	388.97
Total	**262.74**	**311.12**	**298.18**	**18401.54**	**17861.18**

Sharing of Transmission Charges

79. During the hearing on 13.11.2014, the Commission directed the petitioner to submit its comments on the PSPCL's submissions regarding payment of transmission charges for the instant assets by the Northern Region (NR) constituents. The petitioner

vide affidavit dated 10.12.2014 has submitted that the contention raised by PSPCL regarding payment of transmission charges by NR constituents for the transmission system for evacuation of KWHEP is totally misconceived. The petitioner is admittedly an inter-State transmission licensee and it is entitled to servicing of transmission charges as per the 2009Tariff Regulations. The transmission charges payable to the petitioner is recoverable as provided under 2010 Sharing Regulations. The PoC mechanism provides for all the constituents to share and there cannot be exclusion as claimed by the PSPCL. The computation of the PoC rates and recovery of charges are only dependent on the total tariff to be recovered for the ISTS licensees and the load flow studies of the various grid constituents. The contention of PSPCL is contrary to the scheme of PoC mechanism which has been evolved after extensive stakeholder consultation and therefore cannot be accepted.

80. We have considered the submission of the petitioner and PSPCL. The instant line is an ISTS and its charges are to be included in the PoC Charges. Accordingly, the billing, collection and disbursement of the transmission charges with effect from 1.7.2011 shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time.

81. This order disposes of the Petition No. 37/TT/2011.

sd/-	sd/-	sd/-
(A. S. Bakshi)	**(A.K. Singhal)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Chairperson**

<u>Annexure</u>

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
(For Asset I and Asset II combined)

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	**Punjab National Bank**			
	Gross loan opening	**16630.00**	**19430.00**	**20000.00**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**0.00**	**1739.16**
	Net Loan-Opening	16630.00	19430.00	18260.84
	Additions during the year	2800.00	570.00	0.00
	Repayment during the year	0.00	1739.16	1739.16
	Net Loan-Closing	19430.00	18260.84	16521.68
	Average Loan	18030.00	18845.42	17391.26
	Rate of Interest	12.256%	13.122%	12.305%
	Interest	2209.82	2472.88	2140.01
	Rep Schedule	Re payment effective from 1.7.2012		
2	**Central Bank Of India**			
	Gross loan opening	**12472.00**	**14572.00**	**15000.00**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**0.00**	**1304.40**
	Net Loan-Opening	12472.00	14572.00	13695.60
	Additions during the year	2100.00	428.00	0.00
	Repayment during the year	0.00	1304.40	1304.40
	Net Loan-Closing	14572.00	13695.60	12391.20
	Average Loan	13522.00	14133.80	13043.40
	Rate of Interest	12.006%	12.488%	11.898%
	Interest	1623.50	1764.98	1551.84
	Rep Schedule	Re payment effective from 1.7.2012		
3	**J&K Bank**			
	Gross loan opening	**8315.00**	**9715.00**	**10000.00**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**0.00**	**869.60**
	Net Loan-Opening	8315.00	9715.00	9130.40
	Additions during the year	1400.00	285.00	0.00
	Repayment during the year	0.00	869.60	869.60
	Net Loan-Closing	9715.00	9130.40	8260.80
	Average Loan	9015.00	9422.70	8695.60
	Rate of Interest	11.376%	11.879%	11.753%
	Interest	1025.53	1119.29	1022.01
	Rep Schedule	Re payment effective from 1.7.2012		
4	**ICICI Bank**			
	Gross loan opening	**4456.57**	**4987.57**	**4987.57**

	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**4987.57**	**4987.57**
	Net Loan-Opening	4456.57	0.00	0.00
	Additions during the year	531.00	0.00	0.00
	Repayment during the year	4987.57	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00
	Average Loan	2228.29	0.00	0.00
	Rate of Interest	12.080%	0.000%	0.000%
	Interest	269.17	0.00	0.00
	Rep Schedule	Loan closed during 2011-12		
5	**United Bank of India**			
	Gross loan opening	**5820.00**	**5820.00**	**5820.00**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**5820.00**	**5820.00**
	Net Loan-Opening	5820.00	0.00	0.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	5820.00	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00
	Average Loan	2910.00	0.00	0.00
	Rate of Interest	11.85%	0.00%	0.00%
	Interest	344.88	0.00	0.00
	Rep Schedule	Loan Closed during 2011-12		
6	**Indian Overseas Bank**			
	Gross loan opening	**9976.10**	**9976.10**	**9976.10**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**9976.10**	**9976.10**
	Net Loan-Opening	9976.10	0.00	0.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	9976.10	0.00	0.00
	Net Loan-Closing	0.00	0.00	0.00
	Average Loan	4988.05	0.00	0.00
	Rate of Interest	11.13%	0.00%	0.00%
	Interest	555.20	0.00	0.00
	Rep Schedule	Loan Closed during 2011-12		
7	**State Bank of India**			
	Gross loan opening	**0.00**	**24284.00**	**25000.00**
	Cumulative Repayment upto date of commercial operation/previous year	**0.00**	**0.00**	**437.50**
	Net Loan-Opening	0.00	24284.00	24562.50
	Additions during the year	24284.00	716.00	0.00
	Repayment during the year	0.00	437.50	1750.00
	Net Loan-Closing	24284.00	24562.50	22812.50
	Average Loan	12142.00	24423.25	23687.50
	Rate of Interest	12.00%	12.00%	12.00%
	Interest	1457.04	2930.79	2842.50
	Rep Schedule	Re payment effective from 31-03-2013		
	Total Loan			
	Gross loan opening	57669.67	88784.67	90783.67

	Cumulative Repayment upto date of commercial operation/previous year	0.00	20783.67	25134.33
	Net Loan-Opening	57669.67	68001.00	65649.34
	Additions during the year	31115.00	1999.00	0.00
	Repayment during the year	20783.67	4350.66	5663.16
	Net Loan-Closing	68001.00	65649.34	59986.18
	Average Loan	62835.34	66825.17	62817.76
	Rate of Interest	**11.9123%**	**12.4024%**	**12.0290%**
	Interest	7485.15	8287.94	7556.36