0CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 195/TT/2016

Coram:

Shri Gireesh B Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member

Date of Order : 28.09.2017

In the matter of:

Approval of transmission tariff for **Asset-I:** 400 kV FSC in Balia-I and II bays at Sohawal Sub-station of 400 kV D/C Balia-Sohawal Line; **Asset-II:** 2 Nos. of 220 kV Line bays (Feeder-SEZ and Feeder-Dooni) at 400/220 kV Jaipur South Sub-station; and **Asset-III:** Bays of 50 MVAR Bus reactor 2 and 3 at 400/220 kV Bassi Sub-station under "Northern Regional Transmission Strengthening Scheme" in Northern Region for tariff block 2014-19 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014.

And in the matter of:

Power Grid Corporation of India Limited
"Soudamini", Plot No. 2, Sector 29
Gurgaon -122001 **….Petitioner**

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
   Vidyut Bhawan, Vidyut Marg,
   Jaipur-302 005

2. Ajmer Vidyut Vitran Nigam Limited,
   400 kV GSS Building (Ground Floor),
   Ajmer Road, Heerapura, Jaipur

3. Jaipur Vidyut Vitran Nigam Limited,
   400 kV GSS Building (Ground Floor),
   Ajmer Road, Heerapura, Jaipur

4. Jodhpur Vidyut Vitran Nigam Limited,
   400 kV GSS Building (Ground Floor),
   Ajmer Road, Heerapura, Jaipur

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

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

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

8. Power Development Department,
   Govt. of Jammu and Kashmir,
   Mini Secretariat, Jammu

9. Uttar Pradesh Power Corporation Limited,
   (Formerly Uttar Pradesh State Electricity Board)
   Shakti Bhawan, 14, Ashok Marg,
   Lucknow-226 001

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

11. BSES Yamuna Power Limited,
    BSES Bhawan, Nehru Place,
    New Delhi

12. BSES Rajdhani Power Limited,
    BSES Bhawan, Nehru Place,
    New Delhi

13. 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

14. Chandigarh Administration,
    Sector-9, Chandigarh

15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun

16. North Central Railway,
Allahabad

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

For petitioner : Shri S.S. Raju, PGCIL
Shri S.K. Venkatesan, PGCIL

For respondents : Shri R.B. Sharma, Advocate for BRPL

ORDER

The present petition has been filed by Power Grid Corporation of India Limited ("the petitioner") seeking approval of transmission charges for **Asset-I:** 400 kV FSC in Balia-I and II bays at Sohawal Sub-station of 400 kV D/C Balia-Sohawal Line, **Asset-II:** 2 Nos. of 220 kV Line bays (Feeder-SEZ and Feeder-Dooni) at 400/220 kV Jaipur South Sub-station and **Asset-III:** Bays of 50 MVAR Bus reactor 2 and 3 at 400/220 kV Bassi Sub-station, (hereinafter referred to as "transmission asset") under "Northern Regional Transmission Strengthening Scheme" in Northern Region, from the date of commercial operation to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014Tariff Regulations").

2. The petitioner has been entrusted with the implementation of Transmission

System associated with "Northern Regional Transmission Strengthening Scheme" in Northern Region. The scope of the scheme was discussed and agreed in the 26th Standing Committee meeting held on 13.10.2008. The Investment Approval (IA) for the project was accorded by the Board of Directors of the petitioner vide Memorandum No C/CP/NRTSS dated 17.3.2010 at an estimated cost of ₹95668 lakh including an IDC of ₹7003 lakh (based on 3rd Quarter 2009 price level). The transmission system was scheduled to be commissioned within 32 months from the date of IA. Therefore, the scheduled date of commissioning (SCOD) of the transmission system was 17.11.2012. The scope of work covered under the scheme is broadly as follows:-

Transmission Lines:

(i) Bhiwani-Jind 400 kV D/C line

(ii) LILO of both circuits of 400 kV D/C Balia-Lucknow line at Sohawal

(iii) LILO of both circuits of 400 kV D/C Dehradun-Bagpat line (Quad) at Saharanpur

(iv) LILO of both circuits of 400 kV D/C Lucknow-Bareilly (Powergrid) line at Shahjahanpur

(v) LILO of both circuits of 400 kV D/C Agra-Jaipur line at Jaipur (South)

Sub-stations:

(i) New 2x315 MVA, 400/220 kV Sub-station at Sohawal

(ii) New 2x315 MVA, 400/220 kV Sub-station at Shahjahanpur

(iii) New 2x315 MVA, 400/220 kV Sub-station at Saharanpur

(iv) New 2x315 MVA, 400/220 kV Sub-station at Jind

(v) New 2x315 MVA, 400/220 kV Sub-station at Jaipur (South)

(vi) Extension of Bhiwadi 400/220 kV Sub-station-1x315 MVA, 400/220 kV transformer

(vii) Extension of Gurgaon 400/220 kV Gas Insulated Sub-station

(viii) Extension of Bhiwani 765/400/220 kV Sub-station

(ix) Extension of Jaipur (Bassi) 400/220 kV Sub-station

(x) Extension of Bareilly 400/220 kV Sub-station°°

Reactive Compensation:

Particulars	Approximate line length (km)	Line reactor from bus	Line reactor to bus
1. Bhiwani-Jind 400 kV D/C	75	-	-
2. LILO of both circuits of Balia-Lucknow 400 kV D/C at Sohawal (twin moose with 95° C)	320		
a. Balia-Sohawal section	260	63 MVAR on both circuits (existing to be retained)	New 50 MVAR reactors on both circuits
b. Sohawal-Lucknow section	100	-	63 MVAR on both circuits (existing to be shifted to Sohawal and used as Bus reactor)
c. 40% FSC to be shifted from Lucknow to Sohawal	-	-	-
3. LILO of both circuits of Dehradun-Bagpat at Saharanpur (quad)	210	-	-
a. Dehradun-Saharanpur section	80	50 MVAR on both circuits (proposed under NRSS XVIII)-To be diverted directly to Saharanpur and used as Bus reactor	
b. Saharanpur-Bagpat section	150	-	-
4. LILO of both circuits of Lucknow-Bareilly 400 kV D/C at Shahjahanpur	250	-	-
a. Lucknow-Shahjahanpur section	180	50 MVAR on both circuits (existing to be retained)	-
b. Shahjahanpur-Bareilly section	90	-	50 MVAR on both circuits (existing to be retained and used as Bus reactor)
5. LILO of two circuits of Agra-Jaipur (Bassi) 400 kV lines at Jaipur (South)	218		
a. Agra-Jaipur (South) section	230	50 MVAR on both circuits (existing to be retained)	50 MVAR reactors on both circuits
b. Jaipur (South)-Jaipur (Bassi) section	30	-	50 MVAR on both circuits (existing to be retained and used as Bus reactor)
Bus Reactors			
1. Jind-1x125 MVAR			
2.Sohawal-2x63 MVAR (existing line reactors to be shifted from Lucknow and used as Bus reactor)			
3. Saharanpur-2x50 MVAR (line reactors proposed at Dehradun Under NRSS-XVIII to be diverted directly to Saharanpur			
4.Shahjahanpur-1x125 MVAR			

5.Jaipur (South)-1x125 MVAR
6.Bareilly-2x50 MVAR (existing line reactors to be retained and used as Bus reactor)
7.Jaipur (Bassi)-2x50 MVAR (existing line reactors to be retained and used as Bus reactor)

3. The above scope of the scheme has been covered in different petitions. The details of assets covered in the instant scheme along with the petition numbers, are as under:-

S. No.	Scope as approved in IA	SCOD	Actual COD	Petition No.
1	2x500 MVA ICTs at Jaipur Sub-station	17.11.2012	1.6.2012 (ICT-I) & 1.12.2012 (ICT-II)	89/TT/2012
2	2x315 MVA ICTs at Sohawal		1.7.2012	
3	LILO of Ckt.-I 400 kV D/C Agra-Jaipur line at Jaipur (South)		1.6.2012	
4	LILO of Ckt.-II 400 kV D/C Agra-Jaipur line at Jaipur (South)		1.9.2012	
5	LILO of Ckt.-I 400 kV D/C Balia-Lucknow line at Sohawal		1.2.2013	
6	LILO of Ckt.-II 400 kV D/C Balia-Lucknow line at Sohawal		1.7.2012	
7	315 MVA, 400/220 kV ICT at Bhiwadi		1.4.2012	71/TT/2012
8	15.5 km Loop in portion of the line section to provide arrangement for evacuating ROJA power out of the LILO of both Ckts. Of 400 kV D/C Bareilly-Lucjnow Line		1.4.2012	196/2012
9	125 MVAR Bus Reactor at Jaipur (South)		1.1.2013	
10	400 kV Bhiwadi-Jind TL alongwith associated bays plus 1 no. 500 MVA, 400/220 kV ICT-I and associated bays at Jind Sub-station		1.4.2013	32/TT/2013
11	400/220 kV 500 MVA ICT-II alongwith associated 400/220 kV bays at Jind Sub-station and 1 no. of 220 kV Line bays		1.10.2013	110/TT/2013
12	1 no. of 400 kV, 125 MVAR Bus Reactor at Jind Sub-station alongwith associated bays		1.10.2013	110/TT/2013
13	(A) LILO of Ckt.-II of 400 kV D/C Lucknow-Bareilly line at Shahjahanpur		13.6.2014	33/TT/2015
14	(B) 315 MVA, 400/220 kV ICT-I with 3 nos. of 220 kV Line Bays at Shahjahanpur		15.6.2014	
15	(C) 315 MVA, 400/220 kV ICT-II with 3 nos. of 220 kV Line Bays at Shahjahanpur		26.9.2014	

16	(D) extension of 400/220 kV GIS Gurgaon	17.11.2012	16.1.2015	33/TT/2015
17	(E) 2x50 MVAR Bus Reactor at 400/220 kV Bareilly Sub-station alongwith associated bays (Existing Line Reactors retained and used as Bus Reactor)		1.4.2014	
18	(F) 125 MVAR Bus Reactor at Shahjahanpur		1.4.2015	
19	(a) 315 MVA, 400/220 kV ICT-I & associated bays and 3 nos. of 220 kV Line Bays at Saharanpur Sub-station		9.5.2016	272/TT/2015
20	(b) 315 MVA, 400/220 kV ICT-II & associated bays and 3 nos. of 220 kV Line Bays at Saharanpur Sub-station		9.5.2016	
21	(c) 50 MVA, 400 kV Bus Reactor-I at Saharanpur Sub-station		9.5.2016	
22	(d) 50 MVA, 400 kV Bus Reactor-II at Saharanpur Sub-station		9.5.2016	
23	**Asset-I:** 400 kV FSC in Balia-I and II bays at Sohawal Sub-station of 400 kV D/C Balia-Sohawal Line		12.2.2016	Covered under instant petition
24	**Asset-II:** 2 Nos. of 220 kV Line bays (Feeder-SEZ and Feeder-Dooni) at 400/220 kV Jaipur South Sub-station		18.10.2014	
25	**Asset-III:** Bays of 50 MVAR Bus reactor 2 and 3 at 400/220 kV Bassi Sub-station		11.11.2015	

4. The petitioner has submitted that 40% FSC was originally installed at Lucknow end of the 400 kV D/C Balia-Lucknow line in the year 2006. As per the Investment Approval dated 17.3.2010, it was envisaged to make LILO of Balia-Lucknow line at new Sohawal Sub-station and shift the FSC from Balia bays at Lucknow Sub-station to Balia bays at new Sohawal Sub-station. The petitioner has further submitted that the FSC could not be removed before the commissioning of LILO of Balia-Lucknow line at Sohawal Sub-station. The LILO of Balia-Lucknow line was commissioned on 1.1.2013. Thereafter, the work of removal, dismantling and shifting of FSC was taken up and the FSC was commissioned at Sohawal Sub-station on 12.2.2016.

5. The tariff of 40% FSC at Lucknow end of the 400 kV D/C Balia-Lucknow line was determined in Petition No.560/TT/2014 from 1.6.2007 under the Kahalgaon Stage II, Phase I Transmission System in ER, NR and inter-regional link between Northern and Western Region, under the Investment Approval dated 12.10.2004. The petitioner has claimed the cost of shifting of ₹330.76 lakh towards shifting of FSC from Lucknow to Sohawal in the present petition. However, the petitioner has not submitted the details of cost of shifting of ₹330.76 lakh.

6. The tariff of “40% FSC at Lucknow Sub-station” was allowed since 1.6.2007 and it has completed 10 years of its useful life. It is a case of inter-unit transfer. Since the proposed shifting of FSC from Lucknow to Sohawal is of permanent nature and as it involves two different schemes covered under different Investment Approvals, there will be a mismatch of recovery of the cost of the “40% FSC” over the 25 years. In order to address this issue, the Commission in the past has decided that in case of inter-unit transfer, the assets shall be de-capitalised in the books of accounts of the transmission system where the asset was originally commissioned and capitalised in the books of accounts of the transmission system where it is transferred. In the instant case, the 40% FSC has been transferred from Lucknow to Sohawal end. Therefore, the said assets need to be de-capitalised from the books of accounts of the assets at Lucknow and capitalised in the books of account of assets at Sohawal. The petitioner is directed to carry out the decapitalisation and corresponding capitalisation of the assets within a period of six months and claim the revised tariff of the “40% FSC” at Sohawal Sub-station at the time of truing-up. In so far as the expenditure involved in inter-unit transfer

is concerned, this is in the nature of revenue expenditure and is allowed as a onetime pass through. Since the “40% FSC” was dismantled and shifted to Sohawal and thereafter, commissioned on 12.2.2016, the tariff of the assets shall be determined afresh with reference to the COD as 12.2.2016. Accordingly, the petitioner after carrying out necessary de-capitalisation of the assets at Lucknow and capitalisation at Sohawal Sub-station shall seek fresh determination of the tariff with effect from 12.2.2016. Therefore, the tariff for “40% FSC at Sohawal Sub-station” is not allowed in this order.

7. However, the petitioner is directed to provide complete details of expenses incurred on shifting the instant asset supported by documentary evidence for a prudence check by the Commission. Further, there can be more cases of multiple shifting of such FSC/Reactors etc. from one project to another or even within the same project at some other locations. Therefore, in order to avoid multiplicity of tariff revisions, the tariff revision in such cases will be allowed once at the end of tariff block under truing-up provisions.

8. AFC was granted for instant transmission assets vide order dated 6.1.2017 under the first proviso to Regulation 7(7) of the 2014 Tariff Regulations, subject to proviso (iii) and (iv) of the said Regulation. However, as discussed above, the AFC allowed for the 400 kV FSC at Sohawal Sub-station under proviso (i) of Regulation 7(7) of the 2014 Tariff Regulations vide order dated 6.1.2017 in the instant petition is withdrawn.

9. The details of the transmission charges, for Asset-II and Asset-III renumbered now as Asset-I and Asset-II, claimed by the petitioner are as follows:-

(₹ in lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	10.17	22.40	22.40	22.40	22.40
Interest on Loan	12.94	26.90	24.73	22.57	20.40
Return on Equity	11.34	24.95	24.95	24.94	24.95
Interest on Working Capital	2.91	6.53	6.64	6.75	6.87
O & M Expenses	38.35	87.22	90.12	93.10	96.20
Total	**75.71**	**168.00**	**168.84**	**169.76**	**170.82**

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	12.37	32.61	33.15	33.15
Interest on Loan	15.13	37.78	35.37	32.27
Return on Equity	13.79	36.34	36.94	36.94
Interest on Working Capital	3.63	9.57	9.78	9.95
O & M Expenses	48.46	128.74	133.02	137.42
Total	**93.38**	**245.04**	**248.26**	**249.73**

10. The details submitted by the petitioner in support of its claim for interest on working capital are as under:-

(₹ in lakh)

Particulars	Asset-I				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M expenses	7.03	7.27	7.51	7.76	8.02
Receivables	27.78	28.00	28.14	28.29	28.47
Total	**47.47**	**48.35**	**49.17**	**50.02**	**50.92**
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**2.92**	**6.53**	**6.64**	**6.75**	**6.87**

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	18.69	19.31	19.95	20.61
O & M expenses	10.38	10.73	11.09	11.45
Receivables	40.02	40.84	41.38	41.62
Total	**69.09**	**70.88**	**72.42**	**73.68**
Interest Rate	13.50%	13.50%	13.50%	13.50%
Interest	**3.63**	**9.57**	**9.78**	**9.95**

Commercial Operation Date (COD)

11. Regulation 4(1) of the 2014 Regulations provides the methodology for declaration of commercial operation date and Regulation 5 of the 2014 Regulations provides the trial operation of the transmission system. As per the Investment Approval, the schedule completion is within 32 months from the date of Investment Approval. The date of Investment Approval is 17.3.2010 and accordingly the schedule date of commissioning is 17.11.2012. The actual COD of Asset-I and Asset-II is as under:-

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Scheduled COD as per IA</th><th>COD Actual</th><th>Delay</th></tr>
<tr><td>1</td><td>Asset-I: 2 Nos. 220 kV Line bays (Feeder-SEZ & Feeder-Dooni) at 400/220 kV Jaipur South Sub-station</td><td rowspan="2">17.11.2012</td><td>18.10.2014</td><td>23 months 1 day</td></tr>
<tr><td>2</td><td>Asset-II: Bays of 50 MVAR Bus reactor 2 & 3 at 400/220 kV Bassi Sub-station</td><td>11.11.2015</td><td>35 months 24 days</td></tr>
</table>

12. The declaration of COD along with successful trial operation certificate has been submitted for both assets. However, the trial operation certificate for the assets indicates as follows:-

a) **Asset-I:** The successful completion of total trial operation of transmission element under no load condition. This is issued in suppression of the certificate dated 5.11.2015 towards this asset;

b) **Asset II:** These 50 MVAR Bus reactors are old reactors earlier commissioned as Line reactors for Agra-Bassi II and Agra-Bassi III line in their respective line bays at Bassi Sub-station. After LILO of these lines at Jaipur (South), these reactors are now commissioned as Bus reactor in new bays at Bassi sub-station.

13. During the hearing on 17.11.2016, the Commission directed the petitioner to submit the trial operation certificate of NRLDC, as Asset-I was stated to have been charged under no load condition. The petitioner vide affidavit dated 27.1.2017 has submitted that downstream network of 2 Nos. 220 kV Line bays (Feeder-SEZ & Feeder-Dooni) at 400/220 kV Jaipur South Sub-station was charged on same day (16.10.2014) on which the RLDC certificate was issued. The petitioner has further submitted that due to typographical mistake the RLDC certificate issued indicates that the bays (SEZ & Dooni) at no load conditions and a request to issue a corrigendum incorporating the power flow in 220 kV SEZ & Dooni bays at Jaipur South on 16.10.14 has been sent to NRLDC. The petitioner, vide affidavit dated 11.4.2017, has submitted revised RLDC certificate of completion of trial run operation for Asset-I and as per RLDC certificate the COD of the Asset-I is 18.10.2014.

14. Accordingly, COD of Asset-I and Asset-II is considered as 18.10.2014 and 11.11.2015 respectively.

15. 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, 2003. U.P. Power Corporation Limited (UPPCL), Respondent No. 9 has filed reply dated 27.10.2016. UPPCL has raised the issues of non-submission of information regarding delegation of powers by the Government of India (GOI) to the Board of

Directors of the petitioner for approval of projects, non-submission of technical approval of Standing Committee of Transmission System Planning of Northern Region for the instant assets, IDC and IEDC due to time over-run, lack of details of element wise cost break-up, cost variation, interest on loan, lack of element wise liability flow statement for additional capitalisation and service tax etc. BSES Rajdhani Power Limited (BRPL), Respondent No. 12, has filed reply dated 3.11.2016. BRPL has raised the issues of cost variation, non-filing of Transmission Service Agreement (TSA) and other statutory documents, additional capital expenditure, submission of unsatisfactory reasons for time over-run, effective tax rates, lack of details regarding communication system, filing fee and expenditure incurred on publication of notices and O&M Expenses. The petitioner has filed rejoinder to the replies filed by UPPCL and BRPL vide affidavits dated 20.2.2017. The objections raised by the respondents and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

16. UPPCL has submitted that the petitioner should submit the Office Memorandums vide which the Cabinet Committee for Economic Affairs has granted powers to the Board of Directors of public utilities for all the time to come. The petitioner has clarified that as per Clause 2 (i) of DPE's Office Memorandum No. DPE/11(2)/97-Fin dated 22.7.1997 Navratna Company has full power to incur expenditure on purchase of new items or for replacement, without any monetary ceiling. The petitioner has submitted a copy of OM No. 26(3)/2005-GM-GL-92 dated 1.5.2008 and OM No. DPE/11(2)/97-FIN dated 22.7.1997, a copy of which has also been provided to UPPCL. It is observed from the above said Office Memorandums, that the Navratna status of the petitioner and

other PSUs is reviewed by the Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises on yearly basis and if they do not fulfil the conditions laid down, the Navratna status is withdrawn. In the present case, PGCIL as a Navratna company has approved the investment approval and therefore, the same has been considered for the purpose of tariff.

17. UPPCL has further submitted that the instant assets were not covered under the heading "New Regional Schemes" in the 26th Standing Committee of Transmission System Planning of Northern Region meeting held on 13.10.2008 and as such the tariff be determined only after clarification by the petitioner. The petitioner has submitted that creation of new 220/400 kV sub-station at Jaipur (South) has been discussed in 26th SCM held on 13.10.2008, which includes Asset-I and Asset-II.

18. BRPL has submitted that the petitioner has not filed the Transmission Service Agreement (TSA) between the transmission licensee and the designated inter-State customers as per provisions of Regulation 3(63) of the 2014 Tarff Regulations. BRPL has further submitted that the petitioner has not filed the details of the communication system in the petition, so as to know if the OPGW in place of earth wire has been used under the project. The petitioner has submitted that as per clause 13(5) of Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010, the notified Model Transmission Service Agreement shall be the default transmission agreement and shall mandatorily apply to all designated ISTS customers, therefore as per these regulations signing of TSA is not mandatory. The petitioner has further submitted that however, BRPL has already signed TSA on

19.8.2011 and has submitted a copy of the same. The petitioner has also submitted that the instant petition is only for bays and hence no OPGW is included in the instant petition.

19. Having heard the representatives of the parties and perused the material available on record we proceed to dispose of the petition.

Capital cost

20. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

> **"**(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects."
>
> (2) The Capital Cost of a new project shall include the following:
>
> (a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
>
> (b) Interest during construction and financing charges, on the loans (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 funds deployed;
>
> (c) Increase in cost in contract packages as approved by the Commission;
>
> (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
>
> (e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
>
> (f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;"
>
> (g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
> (h) adjustment of any revenue earned by the transmission licensee by using the assets before COD."

21. The petitioner has submitted Auditors' Certificates dated 30.8..2016 and 31.8.2016 in the petition for the details of the apportioned approved capital cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for both the transmission assets. The details submitted by the petitioner are as under:-

(₹ in lakh)

Particulars	Approved apportioned cost	Cost as on COD	Additional capital expenditure incurred/projected		Total estimated completion cost
			2015-16	2016-17	
Asset-I	525.67	424.16	-	-	424.16
Asset-II	702.96	607.46	-	20.38	627.84

*The capital cost has been verified from the audited books of account of the petitioner by the Auditors upto 31.3.2016.

22. However, as per Form-6 submitted by the petitioner, capital cost of Asset-II, as on COD has been indicated as ₹597.71 lakh. The petitioner is directed to submit reconciliation for this difference at the time of truing-up. We have relied on the Auditors' certificate to proceed to determine tariff in this order.

Cost Variation

23. Both UPPCL and BRPL have submitted that in case of instant assets actual estimated completion cost is lower than the approved apportioned cost and therefore any cost over-run cannot be determined. Therefore, the petitioner should be directed to explain the reasons for such high variation. The petitioner in its rejoinder has reiterated its submissions made in the petition and that the reasons for item wise cost variation are explained in detail in Form-5.

24. The petitioner has further submitted that for procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. The reasons for item wise cost variation between approved cost (FR) and anticipated completion cost are explained in detail in Form-5.

25. The petitioner during hearing on 17.11.2016 was directed to file the reason and justification for higher cost estimates of the instant assets. The petitioner vide affidavit dated 27.1.2017 has submitted that in case of Asset-I, the cost variation of ₹1.02 Crore is mainly due to lower bid price. As regards comparison/variation, as per the petitioner's policy, the bid prices are invited for the complete scope of work on overall basis. The comparison of prices for a particular package is also done with its cost estimate on overall basis. Price of individual items is not compared for the above purpose. Further, the petitioner adopts best procurement practices, which has also been assessed by the World Bank. The reasons for item wise cost variation between approved cost (FR) and anticipated completion cost are explained in detail in Form-5. The RCE for the project is under approval and the same shall be submitted after approval.

26. We have considered the objections raised by the respondents and the clarifications given by the petitioner. The estimated completion cost of Asset-I and Asset-II is ₹424.16 lakh and ₹627.84 lakh against the approved apportioned cost of

₹525.67 lakh and ₹702.96 lakh respectively. The estimated completion cost is lower than the approved apportioned cost. The cost variation is allowed. However, it is observed that the cost estimates prepared by the petitioner are higher, the petitioner is directed to adopt better procedure to make cost estimates of different elements of the transmission projects more realistic.

Time over-run

27. The project was scheduled to be commissioned within 32 months from the date of investment approval of 17.3.2010. Accordingly, the scheduled COD works out to 17.11.2012 against which Asset-I and Asset-II were commissioned on 18.10.2014 and 11.11.2015 respectively. Thus, there is time over-run of 23 months and 1 day and 35 months and 24 days in the commissioning of Asset-I and Asset-II respectively.

28. UPPCL has submitted that the delay of 1 year 11 month and 1 day and 2 years 11 months and 24 days in the commissioning of Asset-I and Asset-II has not been explained and the IDC and IEDC for the unexplained period of delay may not be allowed. BRPL has submitted that no explanation has been submitted by the petitioner for delay in respect of Asset-I in the petition. BRPL has further submitted that the delay is due to slackness on the part of the petitioner. BRPL has also submitted that the justification for time over-run is not backed by the relevant statutory documents, as such the time over-run may not be allowed and accordingly IDC and IEDC during the period of time over-run be disallowed. The petitioner in its rejoinders to the replies of both UPPCL and BRPL has submitted that reasons of delay are already submitted in para 5 of the petition.

29. The petitioner during hearing on 13.4.2017 was directed to submit PERT chart and CPM analysis alongwith submissions. In response, the petitioner, vide affidavit dated 19.5.2017 has submitted justification for delays and vide affidavit dated 22.5.2017 has submitted PERT Chart and CPM analysis. The reasons for the delay submitted by the petitioner are as under:-

a) <u>Asset-I: 2 Nos. 220 kV Line bays (Feeder-SEZ & Feeder-Dooni) at 400/220 kV Jaipur South Sub-station</u>

Asset-I i.e. 2 nos. 220 kV line bays (Feeder SEZ & feeder Dooni) has been commissioned matching with the commissioning of downstream lines of RRVPNL. Therefore, delay in commissioning of Asset-I is due to non-availability of downstream network in the scope of RRVPNL. Further, the petition for remaining 4 nos. 220 kV line bays will be filed matching with the downstream network of RRVPNL. The petitioner has also enclosed copies of communication/ correspondence done with RRVPNL with regard to downstream network at Jaipur (South).

b) <u>Asset-III: Bays of 50 MVAR Bus reactor 2 and 3 at 400/220 kV Bassi Sub-station</u>

The reactors were installed as line reactors at Bassi end of 400 kV Agra-Bassi line. Later on, 400 kV Agra-Bassi line was LILOed at Jaipur (South) Sub-station. The LILO of Agra-Bassi at Jaipur (South) was commissioned on 26.4.2012 (CKT-I) and 4.8.2012 (CKT-II) and these reactors became free only after commissioning of LILO line. Immediately thereafter, the work of removal/shifting of reactors were taken up and the bus reactor bays were commissioned on 11.11.2015. The time over-run in completion of subject assets are "uncontrollable factors" under Regulations 12(2)(i) of Tariff Regulation, 2014 and hence may be approved.

30. We have considered the submissions of the petitioner and the respondent. The assets were scheduled to be commissioned within 32 months from the date of Investment Approval i.e. by 17.11.2012. There is delay of 23 months 1 day and 35 months 24 days in commissioning of Asset-I and Asset-II respectively. Asset-I was to be put into commercial operation matching with the commissioning of downstream lines of RRVPNL. The petitioner has submitted that the delay in COD of the instant asset was due to non-availability of downstream lines of RRVPNL and as soon as the downstream lines were made available by RRVPNL, Asset-I was commissioned on 18.10.2014. The COD of the instant bays depended on the downstream system of RRVPNL, accordingly the petitioner should have taken up the matter with RRVPNL in advance to ensure timely completion of the assets by RRVPNL. The petitioner has not produced any documents to show that the petitioner had pursued the matter with RRVPNL. It appears that the petitioner has not pursued the matter with RRVPNL or made efforts to match the COD of the instant assets with the downstream lines of RRVPL. As such, we are not inclined to hold RRVPNL responsible for the time over-run in the case of Asset-I. In the absence of any valid reason for time over-run, we are of the view that the petitioner is liable for the time over-run of 23 months and 1 day in commissioning of Asset-I. Hence, the time over-run is not condoned.

31. In case of Asset-II, there is a time over-run of 35 months 24 days in putting the asset into commercial operation. The petitioner has submitted that the 50 MVAR reactors were installed as line reactors at Bassi end of 400 kV Agra-Bassi line, which was LILOed at Jaipur (South) Sub-station on 26.4.2012 (Ckt-I) and 4.8.2012 (Ckt-II) and these reactors were used as bus reactors with new bays. The work of removal, shifting started after LILO at Jaipur (South) Sub-station and the bays were commissioned on 11.11.2015. We feel that these reactors became free after LILO of the 400 kV Agra-Bassi line on 4.8.2012 i.e. before schedule commissioning date of 17.11.2012 for the line. However, removal and shifting of reactors and commissioning of new bays took about 36 months for which no justification and proper evidence has been submitted by the petitioner.

32. The petitioner has not submitted reasons for delay in commissioning of the instant assets even though an opportunity to submit the reasons for delay was given in the ROP dated 17.11.2016. The respondents, UPPCL and BRPL have also raised the issue of time over-run of the assets in their reply, but petitioner was unable to submit any specific reasons for delay in reply to RoP as well as rejoinder to the replies of the respondents. In the absence of any substantial reasons for the time over-run, we are not inclined to condone the delay of 35 months and 24 days in the COD of Asset-II.

Treatment of IDC and IEDC

33. The IDC and IEDC during the period of time over-run are to be treated as provided under Regulation 11 of the 2014 Tariff Regulations. Regulation 11 of the 2014 Tariff Regulations provides as follows:-

“11…..Interest during construction (IDC), Incidental Expenditure during Construction (IEDC)

(A) Interest during Construction (IDC):

(1) Interest during construction shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds upto SCOD.

(2) In case of additional costs on account of IDC due to delay in achieving the SCOD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds:

Provided that if the delay is not attributable to the generating company or the transmission licensee as the case may be, and is due to uncontrollable factors as specified in Regulation 12 of these regulations, IDC may be allowed after due prudence check:

Provided further that only IDC on actual loan may be allowed beyond the SCOD to the extent, the delay is found beyond the control of generating company or the transmission licensee, as the case may be, after due prudence and taking into account prudent phasing of funds.”

“**(B)……Incidental Expenditure during Construction (IEDC)**:
(1) Incidental expenditure during construction shall be computed from the zero date and after taking into account pre-operative expenses upto SCOD:

Provided that any revenue earned during construction period up to SCOD on account of interest on deposits or advances, or any other receipts may be taken into account for reduction in incidental expenditure during construction.

(2) In case of additional costs on account of IEDC due to delay in achieving the SCOD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justification with supporting documents for such delay including the details of incidental expenditure during the period of delay and liquidated damages recovered or recoverable corresponding to the delay:

Provided that if the delay is not attributable to the generating company or the transmission licensee, as the case may be, and is due to uncontrollable factors as specified in regulation 12, IEDC may be allowed after due prudence check:

Provided further that where the delay is attributable to an agency or contractor or supplier engaged by the generating company or the transmission licensee, the liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost.

(3) In case the time over-run beyond SCOD is not admissible after due prudence, the increase of capital cost on account of cost variation corresponding to the period of time over run may be excluded from capitalization irrespective of price variation provisions in the contracts with supplier or contractor of the generating company or the transmission licensee."

34. The petitioner has claimed Interest During Construction (IDC) of ₹37.23 lakh and ₹88.41 lakh for Asset-I and Asset-II respectively. However, IDC on cash basis has been worked out based on the loans deployed for the instant asset as per Form-9C assuming that the petitioner has not made any default in the payment of interest and the date of drawl submitted in the IDC statement. Further, as the delay in the commissioning of instant assets has not been condoned, IDC for the delayed period has been disallowed.

35. Similarly, the petitioner has claimed Incidental Expenditure During Construction (IEDC) of ₹26.35 lakh and ₹42.86 lakh for Asset-I and Asset-II respectively. The allowable IEDC has been worked out considering the information submitted by the petitioner. With reference to the Abstract Cost Estimate, 5.00% on Hard Cost is being considered as IEDC limit. The IEDC claimed as on SCOD is lower than 5.00% of the hard cost is considered for the purpose of calculation of tariff in this order.

36. Thus, IDC, IEDC allowed on cash basis and capital cost in respect of the instant assets as on COD has been considered as follows:-

(₹ in lakh)

Particulars	Hard cost claimed by the petitioner	IDC allowed upto SCOD on cash basis after disallowance of time over-run	IEDC allowed upto SCOD on cash basis after disallowance of time over-run	Capital cost allowed as on COD
Asset-I	360.58	13.12	15.32	389.02
Asset-II	476.19	17.31	20.22	513.72

Initial Spares

37. The petitioner has not claimed any initial spares for the instant assets.

Additional Capitalisation

38. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

> "(1) The capital expenditure in respect of the new project or an existing project 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 recognised to be payable at a future date;
> (ii) Works deferred for execution;
> (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
> (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
> (v) Change in Law or compliance of any existing law:"
>
> Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

39. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines "cut-off" date as under:-

> "cut-off date" means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of 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 three years of the year of commercial operation".
>
> Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;"

40. The cut-off date in the case of Asset-I and Asset-II is 31.3.2017 and 31.3.2018 respectively.

41. The petitioner has not claimed any additional capital expenditure in respect to Asset-I. The additional capital expenditure, claimed by the petitioner during 2016-17 amounting to ₹20.38 lakh for Asset-II as per CA certificated dated 31.8.2016 is within the cut-off date and is on account of balance payments. However, as per Form-7, the petitioner has claimed ₹9.75 lakh during 2015-16 in respect to Asset-II. We have relied on the CA certificate and considered the amount of ₹20.38 lakh for Asset-II and allowed the additional capital expenditure for Asset-II, which is subject to review at the time of truing-up. Based on above, the gross block considered for the purpose of tariff computation is as under:-

(₹ in lakh)

Particulars	Capital cost allowed as on COD	Projected additional capitalisation			Total estimated completion cost as on 31.3.2019
		2014-15	2015-16	2016-17	
Asset-I	389.02	-	-	-	389.02
Asset-II	513.72	-	-	20.38	534.10

Debt- Equity ratio

42. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

"(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. 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:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

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, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system."

"(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe 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."

43. The capital cost on the date of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. The details of debt-equity as on date of commercial operation and 31.3.2019 considered on normative basis are as under:-

Particulars	**Asset-I**			
	As on COD		**As on 31.3.2019**	
	Amount (₹ in lakh)	**% age**	**Amount (₹ in lakh)**	**% age**
Debt	272.31	70.00	272.31	70.00
Equity	116.71	30.00	116.71	30.00
Total	**389.02**	**100.00**	**389.02**	**100.00**
Particulars	**Asset-II**			
	As on COD		**As on 31.3.2019**	
	Amount (₹ in lakh)	**% age**	**Amount (₹ in lakh)**	**% age**
Debt	359.61	70.00	373.87	70.00
Equity	154.11	30.00	160.23	30.00
Total	**513.72**	**100.00**	**534.10**	**100.00**

Return on Equity (RoE)

44. Clause (1) and (2) of Regulation 24 and Clause (1) and (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

" **24**. **Return on Equity**: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

(i) in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers."

"25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".

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

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

> Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

45. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% as per the above Regulations. The petitioner has further submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

46. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

47. BRPL has submitted that the petitioner should furnish details in the working of effective tax rate alongwith tax audit report for 2014-15 and the reasons as to why it is opting for MAT. BRPL has further submitted that the instant asset is a new transmission project and is also entitled for Tax Holiday under Section 80 IA of the Income Tax Act, 1961 and the petitioner should at least submit the date from which it intends to claim the benefits of Section 80 IA of the Income Tax Act, 1961. The petitioner has submitted that

the rate of return of equity has been calculated as per clause 25 of the 2014 Tariff Regulations and as the asset is commissioned during 2014-15, the final assessment of tax is yet to be finalised. The petitioner has further submitted that as the RoE is grossed up with MAT rate, any tax benefit is already factored into it, MAT rate being the minimum tax rate to be paid by the company not for each asset separately but as a whole.

48. We have considered the submissions made by the petitioner and BRPL. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE worked out is given below:-

(₹ in lakh)

Particulars	**Asset-I**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	116.71	116.71	116.71	116.71	116.71
Addition due to Additional Capitalization	-	-	-	-	-
Closing Equity	116.71	116.71	116.71	116.71	116.71
Average Equity	116.71	116.71	116.71	116.71	116.71
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	**10.41**	**22.89**	**22.89**	**22.89**	**22.89**

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	154.11	154.11	160.23	160.23
Addition due to Additional Capitalization	-	6.11	-	-
Closing Equity	154.11	160.23	160.23	160.23
Average Equity	154.11	157.17	160.23	160.23
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	**11.76**	**30.82**	**31.42**	**31.42**

Interest on Loan (IoL)

49. Regulation 26 of the 2014 Tariff Regulations with regard to IoL specifies as under:-

"(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(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 depreciation allowed for the year or part of the year.

5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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."

50. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner's entitlement to IoL has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(b) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period; and

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

51. The petitioner has prayed that it be allowed to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents. UPPCL has submitted that the petitioner has taken loan from SBI of fixed interest and the petitioner has not submitted the weighted average rate of interest on loan in case of Asset-II. UPPCL has further submitted that having negotiated fixed rate of interest in shape of bonds and SBI loan, it is not expected that floating rate of interest shall occur during the tariff period. The petitioner in its rejoinder has submitted the weighted average rate of interest in respect of Asset-II. The petitioner has further submitted that loans are deployed in combination of fixed interest rate (Bonds) and floating interest rate (SBI), in the instant petition, hence, it has prayed that it be allowed to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-

19 period, if any, from the respondents. We would like to clarify that the interest on loans has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

52. We have considered all the loans submitted in Form-9C for calculation of interest on loan. However, the petitioner is directed to reconcile the total gross loan for the calculation of weighted average rate of interest and for calculation of IDC, which would be subject to review at the time of truing-up.

53. Detailed calculations in support of IoL have been given at Annexure-1 and Annexure-2.

54. The details of IoL calculated are as under:-

(₹ in lakh)

Particulars	**Asset-I**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	272.31	272.31	272.31	272.31	272.31
Cumulative Repayment upto Previous Year	-	9.35	29.89	50.43	70.97
Net Loan-Opening	272.31	262.97	242.43	221.89	201.35
Addition due to Additional Capitalisation	-	-	-	-	-
Repayment during the year	9.35	20.54	20.54	20.54	20.54
Net Loan-Closing	262.97	242.43	221.89	201.35	180.81
Average Loan	267.64	252.70	232.16	211.62	191.08
Weighted Average Rate of Interest on Loan	9.7635%	9.7635%	9.7692%	9.7809%	9.7932%
Interest on Loan	**11.89**	**24.67**	**22.68**	**20.70**	**18.71**

(₹ in lakh)

Particulars	**Asset-I**			
	2015-16 (pro-rata)	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	359.61	359.61	373.87	373.87
Cumulative Repayment upto Previous Year	-	10.55	38.22	66.42
Net Loan-Opening	359.61	349.06	335.66	307.46
Addition due to Additional Capitalisation	-	14.27	-	-
Repayment during the year	10.55	27.66	28.20	28.20

Net Loan-Closing	349.06	335.66	307.46	279.26
Average Loan	354.33	342.36	321.56	293.36
Weighted Average Rate of Interest on Loan	9.3580%	9.3595%	9.3595%	9.3595%
Interest on Loan	**12.90**	**32.04**	**30.10**	**27.46**

Depreciation

55. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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

(3) 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 station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) 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.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** 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 the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets."

56. In our calculations, depreciation has been calculated in accordance with Regulation 27 extracted above.

57. The transmission Asset-I and Asset-II were put under commercial operation during 2014-15 and 2015-16 respectively. Accordingly, they will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

58. The details of the depreciation worked out are as under:-

(₹ in lakh)

Particulars	**Asset-I**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Block as on COD	389.02	389.02	389.02	389.02	389.02
Addition during 2014-19 due to Projected Additional Capitalisation	-	-	-	-	-
Gross Block as on 31st March	389.02	389.02	389.02	389.02	389.02
Average Gross Block	389.02	389.02	389.02	389.02	389.02
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	350.12	350.12	350.12	350.12	350.12
Remaining Depreciable Value	350.12	340.77	320.23	299.69	279.15
Depreciation	**9.35**	**20.54**	**20.54**	**20.54**	**20.54**

(₹ in lakh)

Particulars	**Asset-II**			
	2015-16 (pro-rata)	**2016-17**	**2017-18**	**2018-19**

Gross Block as on COD	513.72	513.72	534.10	534.10
Addition during 2014-19 due to Projected Additional Capitalisation	-	20.38	-	-
Gross Block as on 31st March	513.72	534.10	534.10	534.10
Average Gross Block	513.72	523.91	534.10	534.10
Rate of Depreciation	5.2800%	5.2800%	5.2800%	5.2800%
Depreciable Value	462.35	471.52	480.69	480.69
Remaining Depreciable Value	462.35	460.97	442.48	414.28
Depreciation	**10.55**	**27.66**	**28.20**	**28.20**

Operation & Maintenance Expenses (O&M Expenses)

59. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Elements	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bays (₹ lakh per bay)	60.30	62.30	64.37	66.51	68.71
220 kV bays (₹ lakh per bay)	42.21	43.61	45.06	46.55	48.10

60. The petitioner has claimed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner's entitlement to O&M Expenses has been worked out as given hereunder:-

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
2 nos. 220 kV bays at Jaipur (South) Sub-station (COD 18.10.2014)					
2 nos. 220 kV bays	38.16	87.82	90.12	93.10	96.20
2 nos. 400 kV bays for 50 MVAR Bus reactor (COD 11.11.2015)					
Particulars	**2014-15**	**2015-16 (pro-rata)**	**2016-17**	**2017-18**	**2018-19**
2 nos. 400 kV bays	-	48.34	128.74	133.02	137.42

61. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the

employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

62. BRPL has submitted that the increase in the employee cost, if any, due to wage revision must be taken care of by improvement in productivity levels by the petitioner, so that the beneficiaries are not unduly burdened over and above the provisions made in the 2014 Tariff Regulations. The petitioner in its rejoinder has reiterated his submissions made in the petition.

63. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on working capital

64. Clause 1 (c) and 3 of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

> "28. Interest on Working Capital**:** (1) The working capital shall cover:
> -------
> (c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:
>
> (i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month"

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later"

"(5) 'Bank Rate' means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;"

65. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital determined is as under:-

(₹ in lakh)

Particulars	**Asset-I**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	12.58	13.08	13.52	13.97	14.43
O & M expenses	6.99	7.27	7.51	7.76	8.02
Receivables	26.61	26.95	27.12	27.31	27.51
Total	**46.18**	**47.30**	**48.15**	**49.03**	**49.96**
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**2.84**	**6.39**	**6.50**	**6.62**	**6.74**

(₹ in lakh)

Particulars	**Asset-II**			
	2015-16 (pro-rata)	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	18.64	19.31	19.95	20.61
O & M expenses	10.35	10.73	11.09	11.45
Receivables	37.28	38.08	38.69	39.02
Total	**66.28**	**68.12**	**69.73**	**71.08**
Interest Rate	13.50%	13.50%	13.50%	13.50%
Interest	**3.48**	**9.20**	**9.41**	**9.60**

Transmission charges

66. The transmission charges allowed for the transmission assets are summarized as under:-

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	9.35	20.54	20.54	20.54	20.54
Interest on Loan	11.89	24.67	22.68	20.70	18.71
Return on Equity	10.41	22.89	22.89	22.89	22.89
Interest on Working Capital	2.84	6.39	6.50	6.62	6.74
O & M Expenses	38.16	87.22	90.12	93.10	96.20
Total	**72.65**	**161.70**	**162.73**	**163.84**	**165.08**

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	10.55	27.66	28.20	28.20
Interest on Loan	12.90	32.04	30.10	27.46
Return on Equity	11.76	30.82	31.42	31.42
Interest on Working Capital	3.48	9.20	9.41	9.60
O & M Expenses	48.34	128.74	133.02	137.42
Total	**87.03**	**228.46**	**232.15**	**234.09**

67. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, or any other kind of impositions etc. The same, if imposed shall be borne and additionally paid by the respondents. We have considered the submissions of the petitioner. The petitioner is entitled for late payment surcharge and FERV as per Regulations 45 and 50 respectively of the 2014 Tariff Regulations.

Filing Fee and the Publication Expenses

68. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations.

BRPL has submitted that as there is a statutory requirement of CPSUs to approach the Commission in furtherance of their business, the claim is liable to be rejected. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC fees and Charges

69. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Sharing of Transmission Charges

70. The billing, collection and disbursement of the transmission charges approved 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, as provided in Regulation 43 of the 2014 Tariff Regulations.

71. This order disposes of Petition No. 195/TT/2016.

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

Annexure-1

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1	**Bond XXXIX**					
	Gross loan opening	45.95	45.95	45.95	45.95	45.95
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	45.95	45.95	45.95	45.95	45.95
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	45.95	45.95	45.95	45.95	45.95
	Average Loan	45.95	45.95	45.95	45.95	45.95
	Rate of Interest	9.40%	9.40%	9.40%	9.40%	9.40%
	Interest	4.32	4.32	4.32	4.32	4.32
	Rep Schedule	29.3.2027 Bullet Payment				
2	**Bond XLVI**					
	Gross loan opening	8.05	8.05	8.05	8.05	8.05
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0	0
	Net Loan-Opening	8.05	8.05	8.05	8.05	8.05
	Additions during the year	0.00	0.00	0.00	0	0
	Repayment during the year	0.00	0.00	0.00	0	0
	Net Loan-Closing	8.05	8.05	8.05	8.05	8.05
	Average Loan	8.05	8.05	8.05	8.05	8.05
	Rate of Interest	9.30%	9.30%	9.30%	0.093	0.093
	Interest	0.75	0.75	0.75	0.75	0.75
	Rep Schedule	3 instalments on 04.09.2019, 04.09.2024 and 04.09.2029				
3	**Bond XXXVI**					
	Gross loan opening	75.00	75.00	75.00	75.00	75.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	5.00	10.00
	Net Loan-Opening	75.00	75.00	75.00	70.00	65.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	5.00	5.00	5.00
	Net Loan-Closing	75.00	75.00	70.00	65.00	60.00
	Average Loan	75.00	75.00	72.50	67.50	62.50
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	7.01	7.01	6.78	6.31	5.84
	Rep Schedule	15 annual instalments from 29.08.2016.				
4	**Bond XL**					
	Gross loan opening	31.82	31.82	31.82	31.82	31.82
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	2.65	5.30
	Net Loan-Opening	31.82	31.82	31.82	29.17	26.52

	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.65	2.65	2.65
	Net Loan-Closing	31.82	31.82	29.17	26.52	23.87
	Average Loan	31.82	31.82	30.49	27.84	25.19
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	2.96	2.96	2.84	2.59	2.34
	Rep Schedule	12 annual instalments from 28.06.2016				
5	**SBI Loan 2014-15**					
	Gross loan opening	136.09	**136.09**	**136.09**	**136.09**	**136.09**
	Cumulative Repayment upto DOCO/previous year	0.00	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	136.09	136.09	136.09	136.09	136.09
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	136.09	136.09	136.09	136.09	136.09
	Average Loan	136.09	136.09	136.09	136.09	136.09
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	13.95	13.95	13.95	13.95	13.95
	Rep Schedule	22 semi annual instalments from 15.06.2019				
	Total Loan					
	Gross loan opening	296.91	296.91	296.91	296.91	296.91
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	7.65	15.30
	Net Loan-Opening	296.91	296.91	296.91	289.26	281.61
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	7.65	7.65	7.65
	Net Loan-Closing	296.91	296.91	289.26	281.61	273.96
	Average Loan	296.91	296.91	293.08	285.43	277.78
	Rate of Interest	9.7635%	9.7635%	9.7692%	9.7809%	9.7932%
	Interest	**28.99**	**28.99**	**28.63**	**27.92**	**27.20**

Annexure-2

(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
	Details of Loan	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1	**Bond XXXVIII**				
	Gross loan opening	270.00	270.00	270.00	270.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	270.00	270.00	270.00	270.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	270.00	270.00	270.00	270.00
	Average Loan	270.00	270.00	270.00	270.00
	Rate of Interest	9.25%	9.25%	9.25%	9.25%
	Interest	24.98	24.98	24.98	24.98
	Rep Schedule	9.3.2027 Bullet Payment			
2	**SBI Loan 2014-15**				
	Gross loan opening	148.40	**155.22**	**155.22**	**155.22**
	Cumulative Repayment upto DOCO/previous year	0.00	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	148.40	155.22	155.22	155.22
	Additions during the year	6.82	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	155.22	155.22	155.22	155.22
	Average Loan	151.81	155.22	155.22	155.22
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	14.50	14.82	14.82	14.82
	Rep Schedule	NA			
	Total Loan				
	Gross loan opening	418.40	425.22	425.22	425.22
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	418.40	425.22	425.22	425.22
	Additions during the year	6.82	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	425.22	425.22	425.22	425.22
	Average Loan	421.81	425.22	425.22	425.22
	Rate of Interest	9.3580%	9.3595%	9.3595%	9.3595%
	Interest	**39.47**	**39.80**	**39.80**	**39.80**