

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 213/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 : 07.09.2017**

**In the matter of:**

Approval of transmission tariff for 765 kV S/C Jaipur (RVPN)-Bhiwani transmission line 2<sup>nd</sup> circuit with 240 MVAR (Non-switchable) line reactor and associated bays at Bhiwani end and 240 MVAR (Non-switchable) line reactor and associated bays at Jaipur (RVPNL) end under "Northern Region System Strengthening Scheme XXV" from COD to 31.3.2019 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**And in the matter of:**

Power Grid Corporation of India Limited,  
"Saudamini", Plot No. 2,  
Sector 29, Gurgaon-122001  
Haryana

**....Petitioner**

**Vs**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited  
Vidyut Bhawan, Vidyut Marg,  
Jaipur - 302005
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-171004
6. Punjab State Electricity Board  
The Mall, Patiala-147001
7. Haryana Power Purchase Centre  
Shakti Bhawan, Sector-6  
Panchkula (Haryana) 134 109
8. Power Development Department  
Government of Jammu & 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-110002
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 Ltd.  
Power Trading and Load Dispatch Group  
Cennet Building, Adjacent to 66/11 kV Pitampura-3  
Grid Building, Near PP Jewellers  
Pitampura, New Delhi-110 034.
14. Chandigarh Administration  
Sector -9, Chandigarh.
15. Uttarakhand Power Corporation Ltd.  
Urja Bhawan, Kanwali Road,  
Dehradun.
16. North Central Railway,  
Allahabad.



17. New Delhi Municipal Council  
Palika Kendra, Sansad Marg,  
New Delhi-110002

....Respondents

**For Petitioner** : Shri S. S. Raju, PGCIL  
Shri S.K. Venkatesan, PGCIL  
Shri R. Prasad, PGCIL  
Shri Jasbir Singh, PGCIL

**For Respondents** : Sh. R. B. Sharma, Advocate, BRPL

### ORDER

The present petition has been filed by Power Grid Corporation of India Limited (“PGCIL”) seeking approval of transmission tariff for 765 kV S/C Jaipur (RVPN)-Bhiwani transmission line 2<sup>nd</sup> circuit with 240 MVAR (Non-switchable) line reactor and associated bays at Bhiwani end and 240 MVAR (Non-switchable) line reactor and associated bays at Jaipur (RVPNL) end (hereinafter referred to as “transmission assets”) under “Northern Region System Strengthening Scheme XXV” (hereinafter referred to as “transmission system”) for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. The Investment Approval (IA) and expenditure sanction for the transmission system was accorded by the Board of Directors of the petitioner on 19.9.2013 at an estimated cost of ₹68069 lakh including an IDC of ₹3595 lakh (based on June 2013 price level).

3. The scope of the scheme covered under the instant “transmission system” is broadly as follows:-



Transmission Lines:

- Jaipur(RVPNL)-Bhiwani 765 kV S/C line(2<sup>nd</sup>)
- Bhiwani-Hisar 400 kV D/c Line
- LILO of Moga-Bhiwadi 400 kV D/C line at Hisar

Sub-stations:

- Extension of 765/400 kV Bhiwani Sub-station
- Extension of 400/220 kV Hisar Sub-station
- Extension of 765/400 kV Jaipur(RVPNL) Sub-station

Reactive Compensation

- 765 kV, 240 MVAR Line Reactors at each end of Jaipur (RVPNL)-Bhiwani Line.

4. The details of the other assets covered in the instant transmission system and the petition under which they are covered is as follows:-

Srl. No.	Assets	Scheduled COD	COD	Petition No.
1	Bhiwani - Hisar 400 kV D/C Line alongwith associated bays at Bhiwani and Hisar	18.3.2016	2.11.2015	208/TT/2015
2	LILO of Moga-Bhiwadi 400 kV D/C line at Hisar alongwith associated bays at Hisar	18.3.2016	2.7.2015	
3	765 kV S/C Jaipur (RVPNL) - Bhiwani TL (Part – I & II) alongwith associated bays	18.3.2016	1.10.2016	Instant Petition

5. The details of the transmission charges claimed by the petitioner are as under:-

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	1270.75	2853.39	2913.64
Interest on Loan	1151.09	2462.84	2331.29
Return on Equity	1418.47	3186.91	3254.03
Interest on working capital	95.08	209.64	210.36
O & M Expenses	217.36	464.27	479.62
<b>Total</b>	<b>4152.75</b>	<b>9177.05</b>	<b>9188.94</b>



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

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	67.38	69.64	71.94
O & M Expenses	37.43	38.69	39.97
Receivables	1430.39	1529.51	1531.49
<b>Total</b>	<b>1535.20</b>	<b>1637.84</b>	<b>1643.40</b>
Rate of Interest	12.80%	12.80%	12.80%
<b>Interest</b>	153.97	209.64	210.36

7. 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. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No. 9 has filed reply vide affidavit dated 2.12.2016, BSES Rajdhani Power Limited (BRPL), Respondent No. 12 has filed reply vide affidavit dated 13.12.2016 and BSES Yamuna Power Limited (BYPL) has filed reply vide affidavit dated 7.12.2016. Rajasthan Discoms, Respondents No. 2 to 4, have filed a combined reply vide affidavit dated 7.12.2016. The respondents have raised issue of filing of statutory information, time over-run, cost variation and initial spares, use of OPGW, increase in employee cost due to wage revision etc. The petitioner has filed rejoinders dated 11.4.2017, 26.4.2017 and 28.4.2017 in response to the replies of UPPCL, BRPL and BYPL respectively. The objections raised by the respondents and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

8. UPPCL in its reply has requested the petitioner to inform whether under Office Memorandum (O.M.) No. 26(3)/2005-GM-GL-92 dated 1.5.2008 and O.M. No. DPE/11(2)/97-Fin. dated 22.7.1997 (modified subsequently through O.M. No.



18(24)/2003-GM-GL 64 dated 5th August, 2005), Government of India has delegated all the powers of Cabinet Committee for Economic Affairs regarding granting of approval to Government Projects to the Board of Directors of Public Utilities for all times to come. In response, the petitioner vide affidavit dated 11.4.2017 has submitted rejoinder and has submitted that as per DPE's O.M. No. DPE/11(2)/97-Fin dated 22.7.1997 a Navratna Company has full power to incur expenditure on purchase of new items or for replacement, without any monetary ceiling. This issue has already been considered by the Commission in its order dated 30.8.2017 in Petition No.41/TT/2016. The relevant portion of the said order is as under:-

“UPPCL has submitted that the petitioner should explain whether Government of India has delegated all the powers of Cabinet Committee for Economic Affairs regarding granting of approval of government projects to the Board of Directors of Public Sector Utilities for all times to come and the petitioner should submit the concerned orders of the Government of India. 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. However, this is not a relevant consideration as the approval of the Board of Directors should be accorded when the company is enjoying the Navratna status. 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.”

9. 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 Tariff Regulations. BRPL has also submitted that outside agencies may be impleaded in the instant petition to represent the consumers in general. BRPL has further



submitted that the petitioner has not submitted the details of communication system and it may be asked to provide the details of OPGW, if any, used in place of earth wire. The petitioner in its rejoinder has clarified that as per Regulation 13(5) of 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. As regards impleadment of outside agencies, the petitioner has submitted that all respondents have been impleaded and tariff notices have been published in newspaper to invite attention of all the stakeholders and there is no need to implead an external agency. As regards communication system, the petitioner has submitted that OPGW wire is not used as communication link in Jaipur-Bhiwani Ckt-II under NRSS-XXV and PLCC mode of communication has been commissioned along with the transmission line for end to end communication between Bhiwani and Phagi Sub-stations.

#### **Date of commercial operation**

10. The petitioner has claimed date of commercial operation of the instant assets as 7.10.2016 and in support thereof the petitioner has submitted RLDC charging certificate dated 10.11.2016 and CEA clearance certificate dated 27.9.2016. Taking into consideration the submissions made by the petitioner and the RLDC certificate in support of trial operation, the COD of the instant asset is approved as 7.10.2016.

#### **Capital cost**

11. 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; 39

(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.”

12. The petitioner, vide affidavit dated 7.3.2017, has submitted the Auditors Certificate in support of the expenditure incurred/projected to be incurred along with revised tariff forms in respect of the instant asset as on COD. The petitioner has also submitted the details of additional capitalization incurred/projected to be incurred for the period from claimed COD to 31.3.2019 in the petition. The details are summarized below:-

Particulars	(₹ in lakh)					
	Free-hold land	Buildings & Civil Work	Transmission Line	Sub-station	PLCC	Total
Expenditure up to 31.3.2016	0.00	0.00	41309.69	1698.63	26.85	<b>43035.17</b>
Expenditure from 1.4.2016 to	0.00	200.39	2806.61	1154.86	75.63	<b>4237.49</b>





6.10.2016						
Expenditure from 7.10.2016 to 31.12.2016	0.00	30.33	791.71	1706.08	0.00	<b>2528.13</b>
Estimated Expenditure from 1.1.2017 to 31.3.2017	0.00	185.26	2661.43	447.57	12.75	<b>3307.00</b>
Estimated Expenditure for 2017-2018	0.00	0.00	1774.28	430.38	0.00	<b>2204.67</b>
<b>TOTAL</b>	<b>0.00</b>	<b>415.99</b>	<b>49343.72</b>	<b>5437.52</b>	<b>115.23</b>	<b>55312.46</b>

13. The details of the approved apportioned cost, capital cost as on COD and projected additional capital expenditure during 2016-17 and 2017-18 as claimed, are summarized below:-

(₹ in lakh)				
Approved apportioned cost	Capital cost as on COD	Estimated Expenditure		Total estimated completion cost
		2016-17	2017-18	
56643.90	47272.66	5835.13	2204.67	55312.46

### **Cost Over-run**

14. The estimated completion cost is ₹55312.46 lakh against apportioned approved cost of ₹56643.90 lakh and hence there is cost variation. UPPCL has pointed out that there is over-estimation of the cost of the instant assets. BRPL has also raised the issue of cost over-run. BYPL has raised following issues:-

- a) In case of tower steel there is 8.3% reduction in quantity consumed and 7.5% reduction in price which reflects that engineering estimates prepared by the petitioner were highly over-estimated.
- b) There is 380% increase in insulators and approximately 66% reduction in rate. This seems quite abnormal. A sharp drop of rates is a matter that may affect the quality of material used and reasons for such steep drop needs to be investigated. The petitioner's explanation of 'high bid prices' is



not sustainable as the bid price has an impact on rate, not on quantity. Rate has reduced by 66%, quite contrary to submissions of the petitioner.

- c) There is 27% increase in expenditure incurred on erection, stringing and civil works of Transmission line. This sharp increase of 27% cannot be on account of 'high bid prices' as indicated by the petitioner. It indicates that requisite work estimated earlier has not been undertaken.
- d) There is 76.24% drop in expenditure incurred on Bus bars/Conductors/Insulators. A sharp drop in rates is a matter of concern and, therefore, quality of material used and reasons for such steep drop need to be investigated. This sharp drop cannot be on account of 'low bid prices'. It indicates that estimates were highly overstated.

15. In response, the petitioner has submitted that the cost variation is mainly due to change in line length, tower and insulator configuration as under:-

- (i) There is an increase in line length from 255 km to 276.44 km as during detailed survey/actual construction of the line various constraints were faced in the alignment of routes.
- (ii) Tower quantity has reduced as during FR stage, the weight of tower parts were considered based on 'Delta Configuration' of towers but during award, the configuration was changed from 'Delta' to 'Horizontal' based on experience of difficulty faced during erection of 'Delta Configuration' towers and the heavy tonnage involved in event of increase of height of such towers. Also, the 'Horizontal Configuration' towers are easier to erect and are lighter in weight as they are of low height in comparison to Delta Tower.

Average weight of "A+0" Type normal tower in 'Delta Configuration' is



21.705 MT whereas the same type of tower in 'Horizontal Configuration' weights about 15.396 MT. Thus, overall weight of the towers has reduced despite increase in length of line.

- (iii) The 380% increase in insulator quantity is due to mixed use of both composite long rod insulators (18245 Nos.) and Glass Insulators (54350 nos.). The 54350 nos. of Glass Insulators are equivalent to 2718 nos. of Composite long rod insulators. Thus, total Composite Long Rod Insulators required for line is 380% higher in comparison to FR quantities due to increase in numbers of towers. During FR stage, it was envisaged to install composite long rod in the entire line. But due to increase in line length from 255 km to 276 km, the number of towers increased which resulted in increased requirements of insulators.
- (iv) The increase of 27% in expenditure incurred on erection, stringing and civil works of transmission line is mainly due to increase in line length and corresponding increase in numbers of tower foundations, erection and stringing. The increase in expenditure is also attributed to market dynamics which led to higher bid prices.

16. In response to BRPL's reply, the petitioner vide affidavit dated 26.4.2017 has submitted that the bid prices are invited for the complete scope of work of one or more elements as a package 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 cannot be compared. The reasons for item-wise cost variations between the approved cost and anticipated completion cost are explained in Form 5.



17. We have considered the objections raised by the respondents and the clarifications given by the petitioner as regards the cost variation. The completion cost is lower than the estimated cost despite of time over-run of 6 months and 19 days. The cost estimates prepared by the petitioner are not realistic. We are of the view that the petitioner should adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

18. It is further observed that the petitioner has considered horizontal tower configuration for ease of installation and long rod insulators for timely completion of the project. The petitioner should have adopted prudent implementation practices to reduce the cost of execution of the project. However, in the instant case, it is observed that the petitioner has adopted techniques which have increased the cost of execution. It is further observed that petitioner has not obtained the consent of the beneficiaries while changing the configuration. We are of the view that the petitioner should have obtained RPC approval after carrying out cost benefit analysis. The petitioner is directed to submit the following detailed justification at the time of true up:-

- a) The reason for considering the glass insulators in place of long rod insulators. The cost-benefit analysis versus the saving in cost due to early completion.
- b) The justification for considering horizontal configuration in place of delta configuration and also explain why there is no cost reduction for considering horizontal configuration for tower. The reason for not obtaining consent on revision on scope in the RPC forum.
- c) The details of cost estimates along with Board Agenda note and relevant calculation of capital cost. Basis of considering rate estimates as per



standard order rate (latest order rate) and based on steel/land usage may be furnished.

19. As the population of the 765 kV S/C transmission lines is less. We do not have any reference data for the purpose of comparison. In absence of the required reference data, we have considered the indicative cost submitted by the CTU for the purpose of computation of POC charges. While computing the POC charges for the second quarter of 2017-18, CTU has submitted the indicative cost of 765 kV S/C transmission line as ₹1.56 cr/km. Accordingly, the capital cost of the instant line is restricted to ₹1.56 cr/km on provisional basis and it will be reviewed at the time of truing-up on the basis of the information submitted by the petitioner. Accordingly, the capital cost is worked out as under:-

Capital cost claimed	:	₹55312.46 lakh
Less	:	
Diff ₹1.86cr/km -₹1.56 cr/km)	:	₹8293.20 lakh (for 276.44 km)
Capital cost allowed	:	₹47019.26 lakh

### **Time Over-run**

20. The petitioner vide affidavit dated 19.5.2017 has submitted that all the major packages of the present asset were awarded well within the time. However, there was an issue in award of sub-station package for extension of Jaipur (RRVPL). Earlier it was mutually agreed that the bay extension work at Jaipur (RRVPL) would be carried out by RRVPL. However, RRVPL subsequently intimated its inability to finalize the award and requested the petitioner to explore alternate options. As a result the petitioner awarded the contract on 31.3.2016. The petitioner has submitted the following chronology of events in this reference:-



Srl. No.	Activity	Date
1	The Jaipur Sub-station (Phagi-RRVPNL) belongs to RRVPNL and hence a MOU was signed between POWERGRID and RRVPNL on 1.3.2012 with completion schedule of work by September 2013 to carry out the work by RRVPNL on deposit work basis. This MoU was for 765 kV Gwalior bay, 765kV Bhiwani-I bay etc. Also a provision for 765 kV Bhiwani-II bay was kept which was to be added at later stage	1.3.2012
2	A supplementary agreement was signed on 7.8.14 with the addition of 765 kV Bhiwani-II bay for 765 kV S/C Jaipur (RVPN)-Bhiwani transmission line which was kept on initial MoU dated 1.3.2012 with completion schedule of 15 <sup>th</sup> of September 2015 and with best effort by June 2015	7.8.2014
3	As the construction of line was in full swing and bays work was yet to start therefore first letter was written to CMD (RRVPNL)	26.12.2014
4	Reminder letter to SE (765 kV Design)	31.3.2015
5	The construction activity of Bhiwani bay was not started till May 2015, therefore communication was made by the then ED (NR-I) to Principal secretary (Energy) Rajasthan	26.5.2015
6	RRVPNL updated the status showing their inability to finalize the award and requested to POWERGRID to explore the possibilities of alternate ways to execute the work.	29.7.2015 and 29.9.2015
7	POWERGRID arranged diversion of 3x80 MVAR reactor from Srikakulam Sub-station to Phagi Sub-station	MOM dated 15.10.2015
8	Internal approval to award the package by POWERGRID	Nov' 2015
9	POWERGRID awarded the work with completion schedule of June 2016.	31.3.2016

21. As per investment approval dated 19.3.2013, the project was scheduled to be commissioned within 30 months from the date of investment approval. Accordingly, the scheduled date of commercial operation works out to 18.3.2016. Thus, there is time over-run of 6 months and 19 days. The petitioner has submitted that time over-run was on account of ROW issues encountered at multiple locations during the construction of line. The petitioner has submitted a chronology of ROW events encountered at various locations and measures taken in this regard, detailed as under:-



<b>S. No</b>	<b>Location /Section</b>	<b>Reasons</b>	<b>Period</b>	<b>Documentary proof of measures taken</b>
1	100/0 to 6 101/0, 102/0, 102A/0,103/0, 104/0, 105/0,	The farmers of Village Kadma, Berla, DohkaHaria, Nimriwali, Rasiwas, Narsinghwas, Chhappar, were demanding very high Land compensation alongwith crop compensation.	December 2014 to May 2015	Newspaper cutting along with letter written to Power Secretary Haryana dated 13.1.2015
2	49/0 & 8/2	Farmers alongwith their family members were creating obstruction in Tower Erection work	June 2015 to January 2016	Letter to DC Jhunjhunu dated 1.6.2015 and letter of Tehsildar Gudhagodji dated 18.1.2016 to SHO
3	78/1, 86/2, 91/9, 93/5, 98/0, 98/2, 99/0, 94/11	Obstruction in foundation, Tower Erection work	November 2015 to May 2016	Letter to SDM, Charkhi Dadri and DC Bhiwani dated18.11.2015,20.11.2015 and 27.11.2015 Letter to SDM Charkhidated1.2.2016, 20.4.2016 and 2.5.2016
4	Span 14/0 – 15/0	Stringing of power line crossing delayed due to non-availability of shutdown	December 2015 to May 2016	Letter to Executive Engineer RRVPNL dated 1.12.2015,12.4.2016 and 4.5.2016
5	67/2, 68/0, 68/1, 68/2, 68/3	Obstruction in tower erection work	April 2016 to May 2016	Letter to DM, Mahendergarh (Bhiwani) dated 20.4.2016 and letter dated 4.5.2016 from DM to S.P Mahendergarh
6	103/0,104/0, 93/0,94/0, 91/0,91/1, 93/0,93/3, 93/4, 94/11,	Obstruction in stringing work	May 2016 to till date (not resolved)	Letter to SDM dated 22.6.2016, 28.6.2016, 11.7.2016, 5.9.2016, 19.9.2016, 22.9.2016, 20.9.2016 and 23.9.2016
7	69/0, 70/0, 68/0, 69/0	Obstruction in stringing work	July 2016 to August 2016	Letter dated 13.7.2016 to SHO 21.7.2016, 11.8.2016 to DM Mahendergarh. 22.8.2016 letter from DM to S.P



22. BRPL has submitted that the petitioner has not submitted the statutory information as per requirements of Form 12 along with the PERT chart, Bar chart with Critical Path Analysis (CPM) and in the absence of such information, no relief under time over-run can be granted to the petitioner. UPPCL has submitted that for the instant assets, the time over-run is 193 days out of which the petitioner has explained delay of 132 days on account of ROW problem therefore for the unexplained time over-run of 61 days, IDC and IEDC may not be allowed. Similarly, BYPL and Rajasthan Discoms have submitted that the justification for delay beyond SCOD provided by petitioner do not qualify for change in law or force majeure conditions and therefore, the claim in the petition for IDC and IEDC be restricted to SCOD. In this reference, the petitioner has submitted that the delay from August 2016 to 7.10.2016 was due to ROW problems and time taken to complete the foundation, erection and stringing works of various tower locations. The petitioner, vide affidavit dated 19.5.2017, has also submitted the PERT Chart and CPM Analysis.

23. We have considered the submissions of the respondents and the petitioner. There is a delay of 6 months and 19 days in commissioning of 765kV S/C Jaipur-Bhiwani transmission line (Ckt-II) with 240 MVAR (non-switchable) line reactor and associated bays at Bhiwani and 240 MVAR (Switchable) line reactor and associated bays at Jaipur (RVPNL) end. The petitioner has submitted that the delay is due to ROW issue at different locations for which petitioner approached local police and administration to resolve the issues and it is stated that the delay falls under “uncontrollable factor” under Regulation 12(2)(i) of the 2014 Tariff Regulations. The respondents UPPCL, BRPL, BYPL and Rajasthan Discoms have submitted that the reason for delay in commissioning of asset do not fall





under “uncontrollable factor”. However, on analysis of PERT chart and CPM analysis, it is evident that ROW problems subsisted from December 2014 to August 2016 and further obstruction in stringing work was observed from May, 2016 onwards which was resolved and foundation, tower erection and stringing work was completed within two months. Thus, the time taken in resolving ROW issues and completion of work is about 20 months. However, transmission line construction being a linear activity, the delay of 20 months has been compressed to about 6 months by completing the balance activities after resolving the ROW issue. The time taken in award of contract by PGCIL due to inability to finalize the award by RRVPNL is subsumed in time taken in resolving RoW issue, therefore, this has no additional impact on delay in commissioning of the asset. We are of the view that ROW problems were not within the reasonable control of the petitioner and therefore, the time over-run of 6 months and 19 days in putting the instant assets under commercial operation is condoned.

#### **Treatment of Interest During Construction (IDC)**

24. The petitioner has claimed IDC of ₹3362.16 lakh. The petitioner has submitted that the IDC discharged upto COD was ₹2719.27 lakh and the undischarged IDC as on COD is to be discharged during 2016-17 to 2018-19. The petitioner has further submitted that the undischarged IDC claimed to be discharged during 2016-17 to 2018-19 has not been included in the Additional Capital Expenditure claimed as per Auditor’s Certificates. It has been further submitted that there is no default in the interest payment of any loan.

25. IDC discharged upto COD, i.e. ₹2719.27 lakh is allowed and the IDC amounting to ₹642.89 lakh, which is to be discharged after COD is being



disallowed at present and the same shall be reviewed at the time of truing-up after considering its actual discharge.

### **Treatment of Incidental Expenditure During Construction (IEDC)**

26. The petitioner has claimed ₹1569.00 lakh of IEDC in respect of instant Asset and has submitted that the entire IEDC claimed has been discharged as on COD, which is within the percentage on Hard Cost as indicated in the Abstract Cost Estimate. Accordingly, the IEDC claimed is allowed to be capitalized in the present case.

### **Treatment of Initial Spares**

27. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

#### **“13. Initial Spares**

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

(i) Transmission line - 1.00%

(ii) Transmission Sub-station (Green Field) - 4.00%

(iii) Transmission Sub-station (Brown Field) - 6.00%

(iv) Series Compensation devices and HVDC Station - 4.00%

(i) Gas Insulated Sub-station (GIS)-5.00%

(vi) Communication system-3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:



(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break up of head wise IDC & IEDC in its tariff application.”

28. The petitioner has submitted the actual discharge of the initial spares vide affidavit dated 7.3.2017 and has claimed Initial Spares of ₹436.73 lakh and ₹102.41 lakh in respect of transmission line and sub-station respectively. BRPL and BYPL have submitted that the Initial Spares may be allowed in accordance with Regulation 13 of the 2014 Tariff Regulations.

29. The petitioner has submitted that initial spares procured are well within the ceiling limits prescribed in accordance with Regulation 13 of the 2014 Tariff Regulations. Initial Spares claimed by the petitioner in respect of the instant asset corresponding to transmission line and sub-station are within the percentage prescribed in the 2014 Tariff Regulations. The details of Initial Spares claimed and allowed are as below:-

(₹ in lakh)

Particulars	Total Capital Cost up to Cut-off date	Initial Spares Claimed	Ceiling Limit	Initial Spares worked out
Transmission Line	44944.68	436.73	1.00%	449.58
Sub-station	5057.72	102.41	4.00%	206.47

30. The following capital cost as on COD, after taking into account the allowable IDC and IEDC is considered for the computation of tariff for the instant assets as per Regulation 9(2) of the 2014 Tariff Regulations:-



(₹ in lakh)					
Capital Cost as on COD	Less: IDC Disallowed as on COD	Less: IEDC Disallowed as on COD	Excess Spares Disallowed on COD	Initial as	Capital Cost as on COD considered for tariff
47019.26	642.89	0.00	0.00		46376.37

### **Additional Capital Expenditure**

31. The petitioner has claimed Additional Capital Expenditure of ₹8039.80 lakh (₹5835.13 lakh for 2016-17 and ₹2204.67 lakh for 2017-18) on account of Balance and Retention Payments. As stated in Para no. 19 above, the capital cost of the instant asset is restricted to the indicative cost of ₹1.56 cr/km. The Additional Capital Expenditure claimed by the petitioner is in excess of the indicative capital cost considered and hence the same is disallowed. The petitioner's claim for Additional Capital Expenditure shall be reviewed at the time of truing up on submission of the information called for at Para no. 18.

### **Debt-Equity Ratio**

32. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specify 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 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.”

33. The petitioner has claimed debt:equity ratio of 70:30 as on the date of commercial operation. Debt:equity ratio of 70:30 is considered as provided in Regulation 19 of the 2014 Tariff Regulations. The details of debt:equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are as under:-

(₹ in lakh)

Particulars	Capital cost as on tariff COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	32463.46	70.00	32463.46	70.00
Equity	13912.91	30.00	13912.91	30.00
<b>Total</b>	<b>46376.37</b>	<b>100.00</b>	<b>46376.37</b>	<b>100.00</b>

### **Return on Equity**

34. Clause (1) and (2) of Regulation 24 and Clause (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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

35. The petitioner has submitted that it is liable to pay income tax at MAT rate, the RoE has been calculated @ 19.610% after grossing up the RoE with MAT rate of 20.961% as provided under Regulation 25(2)(i) of the 2014 Tariff



Regulations. As per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up rate of RoE at the end of the financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2014-19 period 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. 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. BRPL has submitted that effective tax rate should be allowed as per Regulation 25 of the 2014 Tariff Regulations and the petitioner should submit the details of working of effective tax rate.

36. We have considered the submissions made by the petitioner and the respondents. 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. 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 allowed is as follows:-



(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	13912.91	13912.91	13912.91
Addition due to Additional Capitalisation	0.00	0.00	0.00
Closing Equity	13912.91	13912.91	13912.91
Average Equity	13912.91	13912.91	13912.91
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>1315.57</b>	<b>2728.32</b>	<b>2728.32</b>

### **Interest on Loan (IOL)**

37. Regulation 26 of the 2014 Tariff Regulations provides 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 decapitalization 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.”





38. In these calculations, IOL has been worked out as hereinafter:-

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

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

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

39. The petitioner has submitted that it be allowed to bill and adjust impact on IOL due to change in interest due to floating rate of interest applicable, if any, from the respondents. The IOL has been calculated on the basis of rate prevailing as on the tariff date of commercial operation. Any change in rate of interest subsequent to the tariff date of commercial operation will be considered at the time of truing-up.

40. Detailed calculation of the weighted average rate of interest has been given in **Annexure** to this order.

41. Based on above, details of calculation of Interest on Loan is as follows:-

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	32463.46	32463.46	32463.46
Cumulative Repayment upto Previous Year	0.00	1179.40	3625.31
Net Loan-Opening	32463.46	31284.06	28838.15
Addition due to Additional	0.00	0.00	0.00



Capitalisation			
Repayment during the year	1179.40	2445.91	2445.91
Net Loan-Closing	31284.06	28838.15	26392.23
Average Loan	31873.76	30061.11	27615.19
Weighted Average Rate of Interest on Loan	6.9466%	6.9922%	7.0352%
<b>Interest</b>	<b>1067.65</b>	<b>2101.94</b>	<b>1942.77</b>

## Depreciation

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

### **"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.”

43. The petitioner has claimed actual depreciation as a component of annual fixed charges. Depreciation has been allowed in accordance with Regulation 27 of the 2014 Tariff Regulations. The instant asset was put under commercial operation on 7.10.2016. Accordingly, it 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.

44. Accordingly, depreciation has been worked out on the basis of capital expenditure as on COD and additional capitalization incurred/projected to be incurred thereafter, wherein depreciation for the first year has been calculated on pro rata basis for the year/part of year. Details of the depreciation allowed are as under:-

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	46376.37	46376.37	46376.37
Additional Capital expenditure	0.00	0.00	0.00
Closing Gross Block	46376.37	46376.37	46376.37
Average Gross Block	46376.37	46376.37	46376.37
Rate of Depreciation	5.2741%	5.2741%	5.2741%



Depreciable Value	41738.74	41738.74	41738.74
Remaining Depreciable Value	41738.74	40559.34	38113.42
<b>Depreciation</b>	<b>1179.40</b>	<b>2445.91</b>	<b>2445.91</b>

### **Operation & Maintenance Expenses (O & M Expenses)**

45. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived 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 of the petitioner Company is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. BRPL has submitted that any increase in the employee cost due to wage revision must be taken care by increasing the productivity levels of the petitioner company and the beneficiaries should not be burdened over and above the provisions in 2014 Tariff Regulations. Further, the wage revision of the employees of the petitioner company is due with effect from 1.1.2017 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rates prescribed for the tariff block 2014-19. The scheme of wage revision applicable to CPSUs is binding on the petitioner and hence the petitioner would approach the Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike from 1.1.2017 onwards.

46. We have considered the submissions of the petitioner. 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.

47. Regulation 29(4) of the 2014 Tariff Regulations specifies O&M norms for transmission elements. The normative O&M Expenses for the assets covered in the petition are as under:-

Element	2016-17	2017-18	2018-19
S/C quad T/L (₹ lakh/km)	0.647	0.669	0.691
765 kV bay (₹ lakh/ bay)	90.12	93.11	96.20

48. Accordingly, allowable O&M Expenses as per Regulation 29(4) of the 2014 Tariff Regulations for the assets are as under:-

Element	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
276.44 km 765 kV Jaipur (RVPNL)-Bhiwani S/C quad T/L	86.245	184.94	191.020
3 nos. 765 kV bays	130.36	279.33	288.60
Total	216.605	464.27	479.620

### **Interest on Working Capital (IWC)**

49. Clause 1(c) 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;”

50. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-

**(i) Receivables**

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months’ annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months’ transmission charges.

**(ii) Maintenance spares**

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

**(iii) O & M expenses**

Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.



**(iv) Rate of interest on working capital**

As per Proviso 3 of regulation 28 of the 2014 Tariff Regulations, SBI Base rate 9.30% as on 1.4.2016 plus 350 Bps i.e. 12.80% has been considered for the asset, as the rate of interest on working capital.

51. Accordingly, the interest on working capital as determined is as under:-

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	67.38	69.64	71.94
O & M expenses	37.43	38.69	39.97
Receivables	1337.03	1320.56	1296.14
Total	1,441.84	1,428.89	1,408.05
Interest	<b>88.99</b>	<b>182.90</b>	<b>180.23</b>

**Transmission charges**

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	1179.40	2445.91	2445.91
Interest on Loan	1067.65	2101.94	1942.77
Return on equity	1315.57	2728.32	2728.32
Interest on Working Capital	88.99	182.90	180.23
O & M Expenses	216.61	464.27	479.62
<b>Total</b>	<b>3868.22</b>	<b>7923.34</b>	<b>7776.86</b>

53. 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 Publication Expenses**

54. 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 filing fee and other expenses may not be allowed. 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**

55. 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**

56. Transmission Charges shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges & Losses) Regulations, 2010 as amended time to time.





57. 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.

58. This order disposes of Petition No. 213/TT/2016.

sd/-  
**(M.K. Iyer)**  
**Member**

sd/-  
**(A.S. Bakshi)**  
**Member**

sd/-  
**(A.K. Singhal)**  
**Member**

sd/-  
**(Gireesh B. Pradhan)**  
**Chairperson**



## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2016-17	2017-18	2018-19
<b>1</b>	<b>Bond XLV</b>			
	Gross loan opening	308.31	<b>308.31</b>	<b>308.31</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>25.69</b>
	Net Loan-Opening	308.31	308.31	282.62
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	25.69	25.69
	Net Loan-Closing	308.31	282.62	256.93
	Average Loan	308.31	295.46	269.77
	Rate of Interest	9.65%	9.65%	9.65%
	Interest	29.75	28.51	26.03
	Rep Schedule			
<b>2</b>	<b>Bond XLVI</b>			
	Gross loan opening	1083.00	1083.00	1083.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00
	Net Loan-Opening	1083.00	1083.00	1083.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1083.00	1083.00	1083.00
	Average Loan	1083.00	1083.00	1083.00
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	100.72	100.72	100.72
	Rep Schedule			
<b>3</b>	<b>Bond XLVII</b>			
	Gross loan opening	3196.00	3196.00	3196.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00
	Net Loan-Opening	3196.00	3196.00	3196.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	266.33
	Net Loan-Closing	3196.00	3196.00	2929.67
	Average Loan	3196.00	3196.00	3062.83
	Rate of Interest	8.93%	8.93%	8.93%
	Interest	285.40	285.40	273.51
	Rep Schedule	Redeemable in 12 equal annual installments from 20.10.2018		
<b>4</b>	<b>Bond XLVIII</b>			
	Gross loan opening	3179.00	3179.00	3179.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00
	Net Loan-Opening	3179.00	3179.00	3179.00



	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	3179.00	3179.00	3179.00
	Average Loan	3179.00	3179.00	3179.00
	Rate of Interest	8.20%	8.20%	8.20%
	Interest	260.68	260.68	260.68
	Rep Schedule	Redeemable in 4 equal installments on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030.		
<b>5</b>	<b>SBI 10000</b>			
	Gross loan opening	10081.66	<b>10081.66</b>	<b>10081.66</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	10081.66	10081.66	10081.66
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	10081.66	10081.66	10081.66
	Average Loan	10081.66	10081.66	10081.66
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	942.64	942.64	942.64
	Rep Schedule			
<b>6</b>	<b>Loan under IBRD</b>			
	Gross loan opening	10143.36	<b>10143.36</b>	<b>10143.36</b>
	Cumulative Repayment upto COD/previous year	740.47	<b>928.12</b>	<b>1306.47</b>
	Net Loan-Opening	9402.90	9215.25	8836.90
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	187.65	378.35	380.38
	Net Loan-Closing	9215.25	8836.90	8456.52
	Average Loan	9309.07	9026.07	8646.71
	Rate of Interest	2.39%	2.39%	2.39%
	Interest	222.49	215.72	206.66
	Rep Schedule			
<b>7</b>	<b>Bond XLIX</b>			
	Gross loan opening	411.00	<b>411.00</b>	<b>411.00</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	411.00	411.00	411.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	411.00	411.00	411.00
	Average Loan	411.00	411.00	411.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	33.50	33.50	33.50
	Rep Schedule			
<b>8</b>	<b>Bond L</b>			
	Gross loan opening	1597.50	<b>1597.50</b>	<b>1597.50</b>
	Cumulative Repayment upto	0.00	<b>0.00</b>	<b>0.00</b>



	COD/previous year			
	Net Loan-Opening	1597.50	1597.50	1597.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1597.50	1597.50	1597.50
	Average Loan	1597.50	1597.50	1597.50
	Rate of Interest	8.40%	8.40%	8.40%
	Interest	134.19	134.19	134.19
	Rep Schedule			
<b>9</b>	<b>Bond LIII</b>			
	Gross loan opening	409.00	<b>409.00</b>	<b>409.00</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	409.00	409.00	409.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	409.00	409.00	409.00
	Average Loan	409.00	409.00	409.00
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	33.25	33.25	33.25
	Rep Schedule			
<b>10</b>	<b>Bond LIV</b>			
	Gross loan opening	323.00	<b>323.00</b>	<b>323.00</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	323.00	323.00	323.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	323.00	323.00	323.00
	Average Loan	323.00	323.00	323.00
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	25.74	25.74	25.74
	Rep Schedule			
<b>11</b>	<b>Bond LV</b>			
	Gross loan opening	269.00	<b>269.00</b>	<b>269.00</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	269.00	269.00	269.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	269.00	269.00	269.00
	Average Loan	269.00	269.00	269.00
	Rate of Interest	7.55%	7.55%	7.55%
	Interest	20.31	20.31	20.31
	Rep Schedule			
<b>12</b>	<b>Bond LVII</b>			
	Gross loan opening	1640.01	<b>1640.01</b>	<b>1640.01</b>
	Cumulative Repayment upto	0.00	<b>0.00</b>	<b>0.00</b>



	COD/previous year			
	Net Loan-Opening	1640.01	1640.01	1640.01
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1640.01	1640.01	1640.01
	Average Loan	1640.01	1640.01	1640.01
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	118.08	118.08	118.08
	Rep Schedule			
<b>13</b>	<b>Bond LVII</b>			
	Gross loan opening	0.00	<b>395.87</b>	<b>395.87</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	395.87	395.87
	Additions during the year	395.87	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	395.87	395.87	395.87
	Average Loan	197.94	395.87	395.87
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	14.25	28.50	28.50
	Rep Schedule			
<b>14</b>	<b>Bond LVII</b>			
	Gross loan opening	0.00	<b>0.00</b>	<b>54.15</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	54.15
	Additions during the year	0.00	54.15	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	54.15	54.15
	Average Loan	0.00	27.08	54.15
	Rate of Interest	0.00%	7.20%	7.20%
	Interest	0.00	1.95	3.90
	Rep Schedule			
<b>15</b>	<b>Bond LVII</b>			
	Gross loan opening	0.00	<b>1769.69</b>	<b>1769.69</b>
	Cumulative Repayment upto COD/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	1769.69	1769.69
	Additions during the year	1769.69	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1769.69	1769.69	1769.69
	Average Loan	884.85	1769.69	1769.69
	Rate of Interest	7.20%	7.20%	7.20%
	Interest	63.71	127.42	127.42
	Rep Schedule			
	<b>Total Loan</b>			
	Gross loan opening	32640.84	34806.40	34860.55
	Cumulative Repayment upto	740.47	928.12	1332.16



	COD/previous year			
	Net Loan-Opening	31900.38	33878.29	33528.40
	Additions during the year	2165.56	54.15	0.00
	Repayment during the year	187.65	404.04	672.41
	Net Loan-Closing	33878.29	33528.40	32855.99
	Average Loan	32889.33	33703.34	33192.19
	Rate of Interest	6.9466%	6.9922%	7.0352%
	<b>Interest</b>	2284.71	2356.61	2335.12

