

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 205/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 : 30.08.2017**

**In the matter of:**

Approval of transmission tariff for 400 kV D/C (Quad) Sarnath-Varanasi transmission line along with associated bays at Varanasi GIS Sub-station under "Transmission System for Phase-I Generation Projects in Jharkhand and West Bengal Part-B" 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 Ltd.  
Shakti Sadan, Kotla Road,  
New Delhi-110002
11. BSES Yamuna Power Ltd.  
BSES Bhawan, Nehru Place,  
New Delhi.
12. BSES Rajdhani Power Ltd.  
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.K. Venkatesan, PGCIL  
Shri S. S. Raju, PGCIL

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

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for 400 kV D/C (Quad) Sarnath-Varanasi Transmission Line along with associated bays at Varanasi GIS Sub-station (hereinafter referred to as "transmission assets") under "Transmission System for Phase-I Generation Projects in Jharkhand and West Bengal Part-B (hereinafter referred to as "transmission system") for 2014-19 tariff period under Central Electricity Regulation 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 vide letter dated 9.2.2012 at an estimated cost of ₹320144 lakh including an IDC of ₹20719 lakh (based on 4<sup>th</sup> Quarter of 2011 price level). The instant transmission system was scheduled to be commissioned within 32 months from the date of IA. Therefore, the scheduled date of commissioning of the instant transmission system was 8.10.2014.

3. The approval of Revised Cost Estimate (RCE) for the transmission system was accorded by the Board of Directors of the petitioner vide letter dated 11.11.2016 at revised cost estimate of ₹429232 lakh including IDC of ₹49570 lakh (based on April, 2016 price level).



4. The scope of work covered under the transmission system is broadly as follows:-

#### **Transmission Line**

- Varanasi-Kanpur 765 kV D/C line
- Kanpur-Jhatikra 765 kV S/C line
- Kanpur (765/400 kV)-Kanpur (Existing) 400 kV D/C (Quad) line
- 400 kV connectivity for new 765/400 kV sub-station at Varanasi
  - Varanasi-Sarnath (UPPCL) 400 kV D/C (Quad) line
  - LILO of Sasaram-Allahabad 400 kV line at Varanasi
  - Opening of LILO of one circuit of Sasaram-Allahabad 400 kV D/C line at Sarnath.

#### **Sub-station**

Establishment of new 2x1500 MVA, 765/400 kV GIS Sub-station at Kanpur.

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

Srl. No.	Assets	Petition No.
1	765 kV D/C Varanasi-Kanpur (new) line & associated bays including 240 MVAR Switchable L/R in both Ckt. at Varanasi GIS S/S and 330 MVAR non-switchable L/R in both Ckt. at Kanpur GIS Sub-station	274/TT/2015
2	765 kV S/C Kanpur (new) GIS-Jhatikra line & associated bays including 330 MVAR switchable L/R at Kanpur GIS Sub-station and 330 MVAR non-switchable L/R at Jhatikara Sub-station	
3	400 kV D/C (Quad) Kanpur (New) GIS-Kanpur(old) line & Associated bays	
4	LILO of one Ckt. of 400 kV D/C Sasaram-Allahabad line and Associated bays at Varanasi GIS Sub-station	
5	2x1500 MVA 765/400 kV ICT-I & II & Associated bays at 765/400 KV Kanpur (new) GIS Sub-station	
6	240 MVAR, 765 kV Bus Reactor-1 & associated bay at Kanpur (new) GIS Sub-station	
7	240 MVAR, 765 kV Bus Reactor-2 and associated bay at Kanpur (new) GIS Sub-station	
8	125 MVAR, 400 kV Bus Reactor & Associated bay at Kanpur (new) GIS Sub-station	
9	240 MVAR, 765 kV Bus Reactor & Associated bay at Jhatikara Sub-station	



10	125 MVAR, 400 kV Bus Reactor & associated bay at Varanasi GIS Sub-station	
11	Asset-I: 400 kV D/C (Quard) Sarnath-Varanasi T/L along with associated bays at Varanasi GIS Substation	Instant petition

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

(₹ in lakh)			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	769.52	1789.43	1841.63
Interest on Loan	885.66	1946.14	1845.70
Return on Equity	856.87	1992.42	2050.38
Interest on working capital	60.11	137.32	137.95
O & M Expenses	102.24	238.19	246.12
<b>Total</b>	<b>2674.40</b>	<b>6103.50</b>	<b>6121.78</b>

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

(₹ in lakh)			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	34.58	35.73	36.92
O & M Expenses	19.21	19.85	20.51
Receivables	1004.93	1017.25	1020.30
<b>Total</b>	<b>1058.72</b>	<b>1072.83</b>	<b>1077.73</b>
Rate of Interest	12.80%	12.80%	12.80%
<b>Interest</b>	<b>60.11</b>	<b>137.32</b>	<b>137.95</b>

8. 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. BSES Rajdhani Power Limited (BRPL), Respondent No. 12 has filed reply vide affidavit dated 2.12.2016. BRPL has raised issue of time over-run, cost variation, effective tax rate, reimbursement of expenditure towards filing fee, license fee etc. The petitioner has filed rejoinder dated 5.4.2017 to the reply of BRPL. The objections raised by the respondents and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

### **Date of commercial operation**

9. The petitioner has claimed date of commercial operation of the instant assets as 22.10.2016 and in support the petitioner has submitted RLDC charging certificate dated 15.11.2016 and CEA clearance certificate. 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 22.10.2016.

### **Capital cost**

10. 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.

11. The details of revised approved apportioned cost, capital cost as on COD and projected additional capital expenditure claimed by the petitioner are summarized below:-

Revised approved apportioned cost	Capital cost as on COD	Estimated expenditure			(₹ in lakh) Total estimated completion cost
		2016-17	2017-18	2018-19	
35383.00	32980.60	416.01	1248.03	416.01	35060.65

### **Cost Over-run**

12. The approved apportioned cost of the instant asset as per the FR was ₹10156.93 lakh and the expenditure upto COD is ₹32980.60 lakh and the estimated completion cost of the instant asset is ₹35060.65 lakh. The petitioner has attributed the increase in cost to the increase in line length of the instant asset. The petitioner has submitted that initially the line length assumed in FR was only 25 km. However, the actual length is 106.33 km. The petitioner has submitted that the line length increased due to the change in location of the Varanasi Sub-station. The petitioner has submitted that the land was initially identified at Niyantabad, Chandauli District in the year 2008. But the land at this village could not be acquired due to agitation of villagers and administrative authorities and political issues. Subsequently, land was identified in Roopchandpur village, Varanasi District, but this land also could not be acquired due to the agitation by the local villagers. Finally, the land was acquired in Thatra village, Varanasi District which is approximately 80 km away from the land identified initially for execution of new 400 kV Varanasi GIS Sub-station in Niyamtabad village in Chandauli District. Due to the change in the location of sub-station, the line length increased from 25 km to 106.33 km. Therefore, the

quantity of tower conductor, insulator and other items required for completion of line increased.

13. As regards the variation between the FR cost and the actual cost, the petitioner has submitted that as per the petitioner's policy, the procurement is carried out under open competitive route by providing equal opportunity to all the eligible firms. The bid prices are invited for the complete scope of work on overall basis and the contracts are awarded to the qualified bidder, whose bid is determined as the lowest evaluated, techno-commercially responsive and, who is considered to have the capacity and capability to perform the contract based on the assessment. Thus, the variation of awarded/actual cost is because of various market forces and the pricing strategies followed by bidder(s).

14. BRPL has submitted, vide affidavit dated 2.12.2016, that the petitioner has attributed the cost over-run to the increase in line length from 25 km to 106.33 km. The increase in line length creates serious doubt on the preliminary survey as well as the land acquisition for the GIS for which the petitioner is responsible.

15. We have considered the submissions of the petitioner and BRPL regarding cost over-run. The main reason for increase in the cost of the instant asset was due to the increase in the line length from 25 km to 106.33 km which was due to the change in the location of the sub-station. The petitioner was forced to change the location of the sub-station because of difficulties in acquiring land as planned and we are of the view that the change in location of the sub-station and the consequent increase in the line length cannot be attributed to the petitioner. Further, the petitioner has submitted the revised approved apportioned cost of



the instant asset as ₹35383.00 lakh and the estimated completion cost as ₹35060.65 lakh. In view of the above, the cost over-run is allowed.

### **Time Over-run**

16. As per the Investment Approval dated 9.2.2012, the instant assets were scheduled to be commissioned within 32 months, i.e. by 8.10.2014. However, the instant asset was commissioned on 22.10.2016. Thus, there is a time over-run of 24 months and 14 days. The petitioner has submitted that the delay in commissioning of above assets is mainly due to the delay in land acquisition for Varanasi GIS Sub-station, RoW issues in GauraUpawar village, delay in approval of powerline crossing and floods in Varanasi. The justification submitted by the petitioner is as follows:-

#### **a) Delay in land acquisition:-**

The time over-run due to land acquisition for Varansi GIS Sub-station was considered and condoned by the Commission vide order dated 31.5.2016 in Petition No. 274/TT/2015. The acquisition of land for the sub-station at Chandauli was initiated on 10.9.2010. The land owners started an agitation against acquisition of land by the petitioner. The land could not be acquired because of the agitation by the local villagers, which turned into a political issue. As efforts failed, the idea to acquire land was dropped and direct purchase through negotiation was opted. After various correspondences with administration and concerned authorities, a proposal was made to purchase land in lots for which Gazette Notification was published under Section 4 and Section 6 of Land Acquisition Act on

26.11.2013 and 22.4.2014 respectively. The whole procedure took more than two years. The chronology of events is as follows:-

<b><u>Chronology of delay in land acquisition of Varanasi sub-station in Village: Chandauli and Roopchandrapur,</u></b>		
<b>Srl. No</b>	<b>Description</b>	<b>Date</b>
1	Letter of POWERGRID to DM Chandauli	10.9.2010
2	Letter to POWERGRID by KSS Niyamtabad	19.9.2010
3	Survey of land site by BKU ( Paper cutting Dainaik Jagran)	27.9.2010
4	MP letter to CM, UP for not to acquire land	22.9.2010
5	MP letter to Power Minister, Govt. of India	22.9.2010
6	Letter of Section Officer (MOP) to CMD POWERGRID	30.9.2010
7	Different paper cutting regarding agitation of farmers against giving their land to POWERGRID (8 Nos.)	23.9.2010
8	Letter of Special Secretary to MP, Chandauli	29.10.2010
9	POWERGRID letter to DM Varanasi	12.1.2011
10	Letter of Dy. Secretary to CMD, PPCL	3.2.2011
11	Letter of Chief Engineer UPPCL to DGM POWERGRID	24.2.2011
12	POWERGRID letter to DM Varanasi	28.5.2011
13	POWERGRID letter submitted to DM Varanasi containing proposal for land acquisition for Varanasi Sub-station	25.7.2011
14	Fresh proposal submitted vide POWERGRID letter towards land acquisition for 765/400 kV GIS Sub-station Varanasi.	9.1.2012
15	Idea for land acquisition has been dropped and direct purchase through negotiation was opted due to delay in land acquiring	15.2.2012

**Chronology of land acquisition details for sub-station land in Thathra Village**

1	Approval of “ <b>High Power Committee</b> ” for direct negotiation to land owners for purchase of land towards construction of 765/400 kV sub-station at Varanasi.	28.4.2012
2	Site visit by <b>High Power Committee</b> towards rate negotiation.	26.6.2012
3	Put up of non-encumbrance certificate, search report etc. by lawyer	8.11.2012 to 17.11.2012
4	A meeting was organized at sub-station site consisting of Site in charge, Advocate, Lekhpal , Gram Pradhan & some villagers	6.12.2012
5	Intimation cum assistance sought from <b>DM, Varanasi</b> towards starting of purchase of land.	8.12.2012
6	Land purchased of 1 <sup>st</sup> lot completed on	28.1.2013
7	Land purchased of 2nd lot completed on	28.3. 2013
8	<b>Request letter for government land submitted to district administration</b>	23.3. 2013
9	Land purchased of 3rd lot completed on	30.5. 2013
10	Land purchased of 4th lot completed on	27.7. 2013
11	Land purchased of 5th lot completed	25.9.13

12	Order of Commissioner , Varanasi for Govt. Land to deposit money issued	18.9.13
13	Proposal submitted for balance land (3.904 Ha) for Section-4 to district administration	19.8. 2013
14	<b>Gazette notification published under Section 4</b>	26.11. 2013
15	Proposal submitted for balance land (3.904 Ha) for section-6 to district administration	24.12. 2013
16	<b>Gazette notification published under Section 6</b>	22.4.2014
17	Deposit of money to purchase of Govt. land	29.1.2014
18	Request letter to register Govt. Land in the name of POWERGRID submitted to Commissioner Varanasi	30.1.2014
19	<b>Mutation of already purchased land in the name of POWERGRID</b>	10.2.2014
20	Possession taken on paper by POWERGRID from Tehsildar Rajatalab	30.6.2014
21	Award of Land	20.8.2014
22	Letter to DM Varanasi for providing physical possession on land	22.9.2014
23	Letter to DM Varanasi for providing physical possession on land	30.9.2014
24	Requested to DM Varanasi for giving possession through force	15.11.2014
25	Requested to SO , MirzaMurad Thana for possession	10.12.2014
26	<b>Physical possession on balance land (3.904 Ha)</b>	<b>12.12.2014</b>
27	Disbursement of land compensation stopped due to seizing of account of SLAO by ADJ-II , Varanasi	25.9.2014
28	Disbursement of land compensation started after account makes operation by ADJ-II, Varanasi	30.5.2015
29	Disbursement of compensation of affected farmers under process	8.6.2015

**b) Delay due to RoW issues:**

During the construction of the transmission line it was found that many stretches were found to be densely populated. The petitioner had faced severe ROW problems resulting in delay and many of which could be resolved through persuasion. Few cases were beyond control of the petitioner and could be resolved only after intervention of local authorities/judiciary. The foundation work at Location No.117-118 was taken up in mid-April, 2014. However, the farmers offered stiff resistance and did not allow the work to be started. Subsequently, the matter was escalated to local administration at different levels who were persuaded to resolve the matter. Thereafter, the construction work was taken up and foundation was completed by 31.1.2015 under police protection. However,

it resulted in delay of further 7 months. The petitioner has submitted the following chronology of events with respect to RoW issues:-

1	Letter to SDM Sadar Varanasi to resolve the ROW at location 117-118 at GauraUparwar.	15.5.2014
2	Letter to DM Varanasi to resolve the ROW at location 117-118 at GauraUparwar	13.9.2014
3	Letter to DM Varanasi to resolve the ROW in GauraUparwar village by Ravindra Singh. DM, Varanasi instructed SDM, Varanasi to provide assistance to resolve the agitation of the concerned farmers.	10.12.2014
4	SDM Varanasi instructed SO, Chaubepur on 9.1.2015 to provide the police protection for foundation work.	9.1.2015
<b>Court Case at Location no. 49/1</b>		
The farmer went to court and obtained stay order on 13.1.2015. The same was dismissed on 1.4.2015. Hence, there was a delay of approximately three months.		
1	Court Case at Location No. 49/1 in Kukudipur Village, Jaunpur District by Dhristdhumn to stay the work.	13.1.2015
2	Court dismissed the Stay order	1.4.2015

**c) Power line crossing:**

The instant transmission line is passing over two transmission lines of UPPTCL at tower location 50/00 & 50A/00 and 50A/00 & 51/00 for which the approval of UPPTCL was required. The petitioner has submitted the proposal for overhead crossing on 11.4.2014 to UPPTCL, but the approval for the same took considerable amount of time. The approval was accorded on 7.7.2016 after which the completion work towards crossing span could be undertaken. The petitioner has submitted the detailed chronology of events as follows:-

POWER LINE CROSSING CLEARANCE		
a).	UPPTCL: 220 kV Varanasi-Jaunpur & 132 kV Varanasi-Jaunpur lines U/C lines	
1	Proposal submitted by POWERGRID for approval of overhead crossing	11.4.2014
2	POWERGRID requested UPPTCL for joint inspection for both transmission line	12.8.2014

3	POWERGRID sent reminder through letter to EE, UPPTCL.	5.2.2015
4	POWERGRID sent reminder through letter to S.E UPPTCL.	22.7.2015
5	Joint inspection was carried by POWERGRID and UPPTCL officials.	13.10.2015
6	EE, UPPTCL raised the concern over inadequate falling distance from their Lines.	31.10.2015
	POWERGRID tried to address the concern raised by UPPTCL. However, sufficient corridor was not available as both 220 & 132 kV lines were passing in parallel with each other and to follow any alternate route was not possible due to densely populated area with NH at one side and Railway corridor at other side.	
7	PGCIL requested for approval of crossing with existing plan.	21.5.2016
8	UPPTCL instructed internally for needful action as per guideline	9.6.2016
9	PGCIL requested Director Operation/Project UPPCL for approval and arranging shutdown of line.	27.6.2016
10	On request of UPPTCL, PGCIL submitted a undertaking for bearing any consequential losses/ damages due to failure of PGCIL Line	19.7.2016
11	UPPTCL gave approval for overhead crossing of Line	22.7.2016
12	PGCIL requested for shutdown of line for stringing of Varanasi-Sarnath Line	21.7.2016
13	Shutdown arranged by UPPCL w.e.f.7.8.2016 to 12.8.2016	7.8.2016
14	Stringing work completed	12.8.2016

**d) Delay due to flood in Varanasi:**

The Sarnath Sub-station is an old sub-station and over a period of time, the sub-station was surrounded by residential colonies. To avoid further ROW problem, it was decided to use the existing LILO tower of Sasaram-Allahabad line for termination of the link at Sarnath (UPPTCL) Sub-station. However, the same was possible only after removal of LILO circuit and replacement of normal twin conductor with HTLS conductor. To ensure availability of power to Sarnath (UPPTCL), it was essential that 400 kV D/C Varanasi-Sarnath Line is completed in all respect before taking shutdown for removal of LILO, restringing of HTLS and termination of line at Sarnath. Last stringing of 400 kV D/C Varanasi-Sarnath Line was completed by 12.8.2016 (after resolution of UPPTCL 220 & 132 kV Powerline crossing issue) and POWERGRID was ready for availing the shutdown of 400 kV Sasaram-Allahabad Line, 400 kV Sarnath-Varanasi

Line and 400 kV Sarnath-Sasaram Line for executing the above arrangement. During the month of August 2016, there was unprecedented rain in Varanasi which resulted in inundation of concerned areas and the soil turned marshy due to flooding. The Sarnath Sub-station is situated on the bank of Ganga River and existing LILO Tower L01 is just one km from Ganga River Bank. Subsequently, after improvement in the site conditions, the shutdown of 400 kV Sasaram-Allahabad Line, 400 kV Sarnath-Varanasi Line and 400 kV Sarnath-Sasaram Line was taken up on 22.9.2016 for completing the above said arrangement. Thus, there was delay of two months (22.9.2016 to 20.10.2016) in charging the instant 400 kV D/C (Quad) Varanasi-Sarnath Line due to flood in Varanasi.

17. BRPL has submitted that the problems narrated by the petitioner are only an excuse for justifying the time over-run. The petitioner has not submitted the original schedule, actual schedule and the activity wise time over-run. The information provided by the petitioner does not give the exact time over-run as some of these activities may be on the slack path and the exact float on the slack path is not available in the absence of the PERT chart. The petitioner initially identified land at Niyatabad, District Chandauli in the year 2008 and the land acquisition proceedings also commenced from 10.9.2010. Taking into consideration the progress in the acquisition of the land, the petitioner approved the Investment Approval on 8.2.2012, wherein 32 months timeline was fixed. Thus, the entire delay is attributable to improper planning, management and monitoring of the project by the petitioner. The time over-run should not be allowed as the reasons for time over-run clearly falls within the controllable factors mentioned in Regulation 12 of the 2014 Tariff Regulations.



18. The petitioner, vide affidavit dated 19.5.2017, has submitted the PERT Chart, CPM Analysis, RCE duly authenticated by the Company Secretary. The petitioner has also submitted the following chronology of events:-

Activity	Period of activity				Reasons for delay
	Planned		Achieved		
	From	To	From	To	
Land acquisition	-	-	10.9.2010	12.12.2014	There was delay of more than 2.5 years.
Row issue	29.2.2012	9.10.2014	April, 2014	9.1.2015	There was delay of more than 7-8 months.
Court case	29.2.2012	9.10.2014	January 2015	1.4.2015	There was delay of more than 3 months.
Power line crossing	29.2.2012	9.10.2014	11.4.2014	12.8.2016	There is delay of more than two years to get approval.
Flood and shutdown	29.2.2012	9.10.2014	August, 2016	20.10.2016	Further flood in the month of Aug,shutdown of the line and remaining works further took 2 months and line was finally declared COD on 22.10.2016.

19. We have considered the submissions of the petitioner and BRPL. The petitioner has attributed the time over-run in the instant case to the delay in acquisition of land for Varanasi Sub-station, RoW issues, Power line crossing and floods in Varanasi. We examine these reasons for time over-run in the succeeding paragraphs.

20. The petitioner has submitted that the delay in land acquisition for Varanasi Sub-station was the major reason for the time over-run in case of the instant assets. Route and execution of a transmission line would depend on the finalisation of location of the sub-station. Any change in the location of a sub-station will have impact on the transmission line. In the instant case, the execution of the 400 kV D/C Varanasi-Sarnath (UPPTCL) line is dependent on the acquisition of land for the Varanasi Sub-station. Therefore, we are of the view that it is necessary to examine whether the delay in acquisition of land for Varanasi Sub-station is attributable to the petitioner.

21. The petitioner started the process for acquisition of land for Varanasi Sub-station much before the Investment Approval, i.e. on 10.9.2010 and it ended with the physical possession of land on 12.12.2014. Initially, from 10.9.2010 to 18.4.2012, the petitioner tried to acquire land in Chandauli and Roopchandrapur villages. However, the petitioner was forced to drop the same due to agitation by the land owners. Later, a High Power Committee was set up on 18.4.2012 to enter into direct negotiation with the land owners for purchase of land. With the approval of the High Power Committee on 28.4.2012, action was initiated for acquisition of land for Varanasi Sub-station and first lot of land were purchased on 28.1.2013 and four other lots of land was purchased during 2013. Further, action was initiated for 3.90 Ha of land on 19.8.2013 and possession of this last piece of land was given on 12.12.2014. The major reason for the time over-run was due to the delay in acquisition which was mainly due to agitation by the land owners. It is observed from the correspondence submitted by the petitioner, that the petitioner was seriously pursuing with various authorities for acquisition of land from 10.9.2010 to 9.1.2012. Later, the petitioner entered into direct





negotiation with the land owners as decided by the High Power Committee and acquired the first piece of land on 28.1.2013. With the acquisition of first piece of land on 28.1.2013, the location of Varanasi Sub-station was certain and the petitioner could have taken up the work pertaining to the instant 400 kV D/C (Quad) Sarnath-Varanasi Transmission Line from 28.1.2013. Hence, the petitioner cannot claim the delay beyond 28.1.2013 in acquiring land for Varanasi Sub-station for time over-run in commissioning of the instant assets. Accordingly, the time over-run from the date of Investment Approval, i.e. 9.2.2012 to 28.1.2013 pertaining to land acquisition of Varanasi Sub-station is considered to be beyond the control of the petitioner which affected the construction of the 400 kV D/C (Quad) Sarnath-Varanasi Transmission Line. Accordingly, time over-run from 9.2.2012 to 28.1.2013, i.e. 18 months and 12 days in commissioning of the instant line is condoned. The time taken beyond 28.1.2013, for acquisition of land for Varanasi Sub-station has no impact on the construction of the instant line and hence it is not considered.

### **Right of Way**

22. The petitioner was facing ROW issues and court cases from 15.5.2014 to 1.4.2015 due to the problems created by the villagers of GauraUparwar who did not allow execution of work pertaining to the transmission line. The petitioner has submitted the correspondence made with SDM, Varanasi from 15.5.2014 to 9.1.2015. The petitioner has also submitted that the work could not be carried out from 13.1.2015 to 1.4.2015 due to a stay granted by the District Court. Therefore, we are of the view that the time over-run from 15.5.2014 to 1.4.2015 i.e. 10 months 17 days due to ROW issues is beyond the control of petitioner and accordingly the said period is condoned.



### **Power Line Crossing**

23. The petitioner was facing power line crossing clearances from 11.4.2014 to 12.8.2016. The petitioner has submitted documentary evidence in support of power line crossing clearances for 400 kV D/C Varanasi-Saranath (UPPTCL) line. It is observed from the documents submitted by the petitioner that the proposal was made on 11.4.2014 and the permission was given on 12.8.2016. The petitioner must have finalized the line route after finalization of land for Varanasi Sub-station, i.e. on 28.1.2013. Thereafter, the petitioner should have submitted the proposal immediately to UPPTCL for crossing of transmission line. However, it is observed that the petitioner has submitted the proposal to UPPTCL after considerable period of time on 11.4.2014 i.e. after 14 months. We are of the view that there was slackness on the part of the petitioner in approaching UPPTCL for obtaining clearance and hence this time period is not condoned. Further, a part of the delay in grant of power line crossing permission has been subsumed by the time over-run condoned due to RoW issues as discussed in previous paras.

24. The petitioner has submitted that the work was halted due to floods in Varanasi for 2 months (August to October 2016) and claimed that it led to time over-run of 2 months. It is observed that Sarnath Sub-station is situated on the bank of Ganga River and existing LILO Tower L01 is just 1 km away from Ganga River Bank which was affected due to floods. Since, the petitioner was prevented from doing any work due to floods, the time over-run of two months is condoned.

25. The petitioner's work was affected due to delay in acquisition of land for Varanasi Sub-station, RoW issues and floods in Varanasi by around 30 months

and 29 days. The petitioner has expedited the work and reduced the delay in commissioning of the instant assets to 24 months 14 days. As discussed above, this time over-run is not attributable to the petitioner. Accordingly the time over-run of 24 months and 14 days is condoned. The IDC and IEDC for this period of time over-run are allowed to be capitalised.

### **Treatment of IDC**

26. The petitioner has submitted the IDC discharged up to COD and 'IDC to be discharged' after COD i.e. during 2016-17 and 2017-18 vide affidavit dated 30.1.2017, which are as follows:-

(₹ in lakh)						
Interest During Construction (IDC)						
Claimed as on COD as per the Auditor's Certificate 20.1.2017	Discharged up to COD (as claimed)	Allowed/ Worked out on Cash Basis as on COD	Balance Accrued IDC as on COD to be discharged during 2016-17 (as claimed)	Balance Accrued IDC being discharged during 2016-17 for calculation purpose	Balance Accrued IDC as on COD to be discharged during 2017-18 (as claimed)	Balance Accrued IDC being discharged during 2017-18 for calculation purpose
4270.87	3876.01	3874.39	88.34	0.00	306.53	0.00

27. The IDC on cash basis has been worked out upto COD based on the available information i.e. loan details in Form-9C, submitted vide affidavit 30.1.2017 and has been capitalized as on COD. Whereas, the Balance accrued IDC as on COD, is not capitalized because the Balance accrued IDC as on COD is yet 'to be discharged' by the petitioner. Therefore, this Balance accrued IDC as on COD would be capitalized, after the actual payment is made by the petitioner on cash basis, at the time of truing up.

28. There is a difference in the Gross Loan claimed as on COD (as per Form-9C) and the Gross Loan considered for the working of IDC by the petitioner. We

have considered the Gross loan (as per Form-9C) for calculation of IDC, as it mentions the actual loan deployed for the asset by the petitioner. Therefore, the petitioner is directed to reconcile the Gross Loan for the calculation of weighted average Rate of Interest (as in Form-9C) and for the calculation of IDC, which would be reviewed at the time of truing-up.

### **Treatment of IEDC**

29. The petitioner claimed ₹708.56 lakh as IEDC and has submitted that the entire IEDC claimed has been discharged as on COD. Usually, while granting transmission tariff, the IEDC limit mentioned in the 'Abstract Cost Estimate' is considered for allowing the IEDC. In the instant case, the "IEDC limit" has been mentioned in the 'Abstract Cost Estimate' is 5.00% of the Hard Cost. The IEDC claimed by the petitioner as on COD is lower than 5.00% of the hard cost. Accordingly, the IEDC claimed is allowed to be capitalized in the present case.

### **Initial Spares**

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

31. The following capital cost as on COD after taking into consideration the allowable IDC and IEDC is considered for the computation of tariff for the instant assets :-

(₹ in lakh)					
Capital cost as on COD	Less: IDC & IEDC claimed	Add: IDC on cash basis allowed	Add: IEDC allowed	Less: Excess Initial spares as on COD	Capital cost as on COD considered for tariff
32980.60	4979.43	3874.39	708.56	0.00	32584.12

### **Additional capital expenditure**

32. 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.”

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

“cut-off date” means 31<sup>st</sup> 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 31<sup>st</sup> March of the year closing after three years of the year of commercial operation”.

34. The cut-off date in the case of instant transmission asset is 31.3.2019.

35. The petitioner has claimed the following additional capital expenditure vide affidavit dated 30.1.2017:-

(₹ in lakh)			
Add Cap from COD (22.10.2016) to 31.3.2017	Add Cap in 2017-18	Add Cap in 2018-19	Total estimated Add Cap
416.01	1248.03	416.01	2080.05

36. The petitioner has submitted that the additional capital expenditure incurred/projected to be incurred is on account of Balance and Retention Payments. We have considered the submission of the petitioner. The additional capital expenditure incurred/projected to be incurred is on account of Balance/Retention Payments and are within “cut-off date” and is covered under Regulation 14(1)(i) of the 2014 Tariff Regulations and accordingly it is allowed. The total estimated completion cost of the instant assets as on 31.3.2019 is given below:-

(₹ in lakh)				
Capital Cost allowed as on COD	Additional Capitalisation for 2016-17	Additional Capitalisation for 2017-18	Additional Capitalisation for 2018-19	Total estimated completion cost up to 31.3.2019
32584.12	416.01	1248.03	416.01	34664.17

### **Debt-Equity Ratio**

37. 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:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- 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.”

38. 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:-

Particulars	(₹ in lakh)			
	Capital cost as on tariff COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	22808.88	70.00	24264.92	70.00
Equity	9775.24	30.00	10399.25	30.00
<b>Total</b>	<b>32584.12</b>	<b>100.00</b>	<b>34664.17</b>	<b>100.00</b>

### **Return on Equity**

39. 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:

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.”



40. 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.

41. 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. 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:-

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	9775.24	9900.04	10274.45
Addition due to Additional Capitalisation	124.80	374.41	124.80
Closing Equity	9900.04	10274.45	10399.25
Average Equity	9837.64	10087.24	10336.85
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>850.94</b>	<b>1978.11</b>	<b>2027.06</b>

### **Interest on Loan (IoL)**

42. Regulation 26 of the 2014 Tariff Regulations are 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.”

43. In these calculations, interest on loan has been worked out as hereinafter:-

(i) 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;

(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.

44. The petitioner has submitted that it be allowed to bill and adjust impact on Interest on Loan due to change in interest due to floating rate of interest applicable, if any, from the respondents. The interest on loan 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.

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

46. Based on above, details of Interest on Loan calculated are as follows:-



(₹ in lakh)			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	22808.88	23100.09	23973.71
Cumulative Repayment upto Previous Year	0.00	764.20	2540.78
Net Loan-Opening	22808.88	22335.89	21432.94
Addition due to Additional Capitalisation	291.21	873.62	291.21
Repayment during the year	764.20	1776.58	1820.68
Net Loan-Closing	22335.89	21432.94	19903.46
Average Loan	22572.39	21884.41	20668.20
Weighted Average Rate of Interest on Loan	8.8345%	8.8289%	8.8239%
<b>Interest</b>	<b>879.62</b>	<b>1932.14</b>	<b>1823.74</b>

47. The IOL is allowed considering all the loans submitted in Form-9C. The petitioner is directed to reconcile the total Gross Loan for the calculation of weighted average Rate of Interest and for the calculation of IDC, which would be reviewed at the time of truing-up.

### **Depreciation**

48. 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.”

49. 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 assets were put under commercial operation during 2016-17. 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.

50. Details of the depreciation allowed are as under:-

(₹ in lakh)			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	32584.12	33000.13	34248.16
Additional Capital expenditure	416.01	1248.03	416.01
Closing Gross Block	33000.13	34248.16	34664.17
Average Gross Block	32792.12	33624.14	34456.16
Rate of Depreciation	5.2833%	5.2836%	5.2841%
Depreciable Value	29512.91	30261.73	31010.55
Remaining Depreciable Value	29512.91	29497.53	28469.77
<b>Depreciation</b>	<b>764.20</b>	<b>1776.58</b>	<b>1820.68</b>

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

51. 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 the 2014 Tariff Regulations.

52. 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.

53. The O&M Expenses claimed by the petitioner are as follows:-

(₹ in lakh)		
2016-17	2017-18	2018-19
102.24	238.19	246.12

54. The O&M Expenses norms specified in Regulation 29(3)(a) of the 2014 Tariff Regulations for the instant assets are as follows:-

(₹ in lakh)					
Element	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV GIS Sub-station	51.54	53.25	55.02	56.84	58.73
400 kV D/C line with 4 Sub conductors	1.062	1.097	1.133	1.171	1.210

55. Accordingly, the O&M Expenses allowed for the instant assets are as follows:-

(₹ in lakh)					
Element	2014-15	2015-16	2016-17	2017-18	2018-19
2 Nos. 400 kV GIS Sarnath bays	0	0	48.54	113.68	117.46
Sarnath Varanasi 400 kV D/C line (106.33 km)	0	0	53.14	124.51	128.66
<b>Total</b>	<b>0</b>	<b>0</b>	<b>101.68</b>	<b>238.19</b>	<b>246.12</b>

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

56. Clause 1(c) and clause (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;”

57. 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) 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.

**(ii) 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.

**(iii) 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.

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

As per Proviso 3 of Regulation 28 of tariff regulation' 2014, 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.

58. The interest on working capital as determined is shown in the table given below:-

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	34.58	35.73	36.92
O & M expenses	19.21	19.85	20.51
Receivables	1003.61	1010.24	1009.02
Total	1057.40	1065.82	1066.45
Interest	<b>59.70</b>	<b>136.42</b>	<b>136.51</b>

**Transmission charges**

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

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	764.20	1776.58	1820.68
Interest on Loan	879.62	1932.14	1823.74
Return on equity	850.94	1978.11	2027.06
Interest on Working Capital	59.70	136.42	136.51
O & M Expenses	101.68	238.19	246.12
<b>Total</b>	<b>2656.14</b>	<b>6061.44</b>	<b>6054.10</b>

**Filing Fee and Publication Expenses**

60. 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**

61. 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**

62. BRPL has submitted that the petitioner has not furnished the Transmission Service Agreement (TSA) and as per Regulation 3(63) of the 2014 Tariff Regulations, the petitioner is required to submit the TSA. BRPL has submitted that the discussions in the ERPC & NRPC meetings cited by the petitioner can at best be taken note and cannot be treated as the 'TSA'. In response, the petitioner in its rejoinder has submitted that as per clause 8 of Model TSA, signing of TSA is not mandatory. Further, BRPL has already signed TSA on 19.8.2011 and the petitioner has submitted a copy of TSA with BRPL. The petitioner has also submitted that the tariff for the instant assets should be shared by the beneficiaries as per Regulation 43 of the 2014 Tariff Regulations.

63. We have considered the submissions of the petitioner and BRPL. 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.

64. This order disposes of Petition No. 205/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 (pro-rata)	2017-18	2018-19
<b>1</b>	<b>Bond L</b>			
	Gross loan opening	5235.14	5235.14	5235.14
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	5235.14	5235.14	5235.14
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	5235.14	5235.14	5235.14
	Average Loan	5235.14	5235.14	5235.14
	Rate of Interest	8.40%	8.40%	8.40%
	Interest	439.75	439.75	439.75
	Rep Schedule	12 annual installments from 27.05.2019		
<b>2</b>	<b>Bond LIII</b>			
	Gross loan opening	100.00	100.00	100.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	100.00	100.00	100.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	100.00	100.00	100.00
	Average Loan	100.00	100.00	100.00
	Rate of Interest	8.13%	8.13%	8.13%
	Interest	8.13	8.13	8.13
	Rep Schedule			
<b>3</b>	<b>Bond XL</b>			
	Gross loan opening	1500.00	1500.00	1500.00
	Cumulative Repayment upto DOCO/previous year	125.00	125.00	250.00
	Net Loan-Opening	1375.00	1375.00	1250.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	125.00	125.00
	Net Loan-Closing	1375.00	1250.00	1125.00
	Average Loan	1375.00	1312.50	1187.50
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	127.88	122.06	110.44
	Rep Schedule	12 annual installments from 28.06.2016		
<b>4</b>	<b>Bond LIV</b>			
	Gross loan opening	1119.78	1181.61	1396.18
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1119.78	1181.61	1396.18
	Additions during the year	61.83	214.57	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1181.61	1396.18	1396.18
	Average Loan	1150.70	1288.90	1396.18

	Rate of Interest	7.97%	7.97%	7.97%
	Interest	91.71	102.72	111.28
	Rep Schedule			
<b>5</b>	<b>SBI 2014-15</b>			
	Gross loan opening	7489.85	<b>7489.85</b>	<b>7489.85</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	7489.85	7489.85	7489.85
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	7489.85	7489.85	7489.85
	Average Loan	7489.85	7489.85	7489.85
	Rate of Interest	9.35%	9.35%	9.35%
	Interest	700.30	700.30	700.30
	Rep Schedule	20 half yearly equal installments from 15.6.2019		
<b>6</b>	<b>Bond XLI</b>			
	Gross loan opening	3800.00	<b>3800.00</b>	<b>3800.00</b>
	Cumulative Repayment upto DOCO/previous year	316.67	<b>316.67</b>	<b>633.33</b>
	Net Loan-Opening	3483.33	3483.33	3166.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	316.67	316.67
	Net Loan-Closing	3483.33	3166.67	2850.00
	Average Loan	3483.33	3325.00	3008.33
	Rate of Interest	8.85%	8.85%	8.85%
	Interest	308.28	294.26	266.24
	Rep Schedule	12 annual installments from 19.10.2016		
<b>7</b>	<b>Bond XLII</b>			
	Gross loan opening	545.47	<b>545.47</b>	<b>545.47</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	545.47	545.47	545.47
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	545.47	545.47	545.47
	Average Loan	545.47	545.47	545.47
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	48.00	48.00	48.00
	Rep Schedule	13.3.2023 Bullet Payment		
<b>8</b>	<b>Bond XLIII</b>			
	Gross loan opening	934.00	<b>934.00</b>	<b>934.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>77.83</b>
	Net Loan-Opening	934.00	934.00	856.17
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	77.83	77.83
	Net Loan-Closing	934.00	856.17	778.33
	Average Loan	934.00	895.08	817.25
	Rate of Interest	7.93%	7.93%	7.93%
	Interest	74.07	70.98	64.81



	Rep Schedule	12 annual installments from 20.5.2017		
<b>9</b>	<b>Bond XLV</b>			
	Gross loan opening	300.00	<b>300.00</b>	<b>300.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>25.00</b>
	Net Loan-Opening	300.00	300.00	275.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	25.00	25.00
	Net Loan-Closing	300.00	275.00	250.00
	Average Loan	300.00	287.50	262.50
	Rate of Interest	9.65%	9.65%	9.65%
	Interest	28.95	27.74	25.33
	Rep Schedule	12 annual installments from 28.02.2018		
<b>10</b>	<b>Bond XLVI</b>			
	Gross loan opening	200.00	<b>200.00</b>	<b>200.00</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	200.00	200.00	200.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	200.00	200.00	200.00
	Average Loan	200.00	200.00	200.00
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	18.60	18.60	18.60
	Rep Schedule	Redeemable at par in 3 equal instalments on 04.09.2019, 04.09.2024 & 04.09.2029		
<b>11</b>	<b>Bond LI</b>			
	Gross loan opening	1585.77	<b>1585.77</b>	<b>1585.77</b>
	Cumulative Repayment upto DOCO/previous year	0.00	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1585.77	1585.77	1585.77
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1585.77	1585.77	1585.77
	Average Loan	1585.77	1585.77	1585.77
	Rate of Interest	8.40%	8.40%	8.40%
	Interest	133.20	133.20	133.20
	Rep Schedule	12 annual installments from 14.09.2019		
	<b>Total Loan</b>			
	Gross loan opening	22810.01	22871.84	23086.41
	Cumulative Repayment upto DOCO/previous year	441.67	441.67	986.17
	Net Loan-Opening	22368.34	22430.17	22100.24
	Additions during the year	61.83	214.57	0.00
	Repayment during the year	0.00	544.50	544.50
	Net Loan-Closing	22430.17	22100.24	21555.74
	Average Loan	22399.26	22265.21	21827.99
	Rate of Interest	8.8345%	8.8289%	8.8239%
	<b>Interest</b>	<b>1978.87</b>	<b>1965.76</b>	<b>1926.08</b>