

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 207/TT/2017**

**Coram:**

**Shri P. K. Pujari, Chairperson  
Shri A. K. Singhal, Member  
Shri A. S. Bakshi, Member  
Dr. M. K. Iyer, Member**

**Date of Order: 23.07.2018**

**In the matter of:**

Approval of transmission tariff for **Asset 1:** Part of 400 kV D/C Navsari Boisar transmission line from 45 A/0 to 69/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus), Part of 400 kV D/C Navsari-Boisar transmission line from 69/0 to 313/0 and Part of 400 kV D/C Navsari-Boisar from 313/0 to 332/0 (D/C portion strung on M/C Twin-Quad portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Aurangabad-Boisar); **Asset 2:** 240 MVAR Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 1 at Seoni sub-station; **Asset 3:** 240 MVAR Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 2 at Seoni sub-station; **Asset 4:** Part of 400 kV D/C Vapi- Kudus transmission line from location 44-45 A/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus)- {400 kV D/C Navsari-Boisar portion from location 44 to 45 A/0 already commissioned on 1.4.2014; **Asset 5:** Part of 400 kV D/C Vapi-Kudus transmission line from 45 A/0 to 69/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus), Part of 400 kV D/C Vapi-Kudus transmission line from 69/0-104/0 and Part of 400 kV D/C Aurangabad-Boisar from 313/0 to 332/0 (D/C portion strung on M/C Twin-Quad portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Aurangabad-Boisar) under "Transmission System associated with Mundra Ultra Mega Power Project" for tariff period 2014-19 in Western Region 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. Madhya Pradesh Power Management Company Limited,



Shakti Bhawan, Rampur  
Jabalpur-482 008.

2. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore-452 008.
3. Maharashtra State Electricity Distribution Company Limited,  
Prakashganga, 4<sup>th</sup> Floor,  
Bandra (East) Mumbai-400 052.
4. Gujarat Urja Vikas Nigam Limited,  
Sardar Patel Vidyut Bhawan,  
Race Course Road,  
Vadodara-390 007.
5. Electricity Department,  
Government of Goa,  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa-403 001.
6. Electricity Department,  
Administration of Daman and Diu,  
Daman-396 210.
7. Electricity Department,  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa-396 230.
8. Chhattisgarh State Electricity Board,  
P.O. Sunder Nagar, Dangania, Raipur  
Chhattisgarh-492 013.

...Respondents

**For Petitioner** : Shri Vivek Kumar Singh, PGCIL  
Shri S. S. Raju, PGCIL  
Shri S. K. Venkatesan, PGCIL  
Shri Rakesh Prasad, PGCIL  
Shri Amit Yadav, PGCIL  
Shri V. P. Rastogi, PGCIL  
Shri Pankaj Sharma, PGCIL

**For Respondents** : None

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd.  
("PGCIL") seeking approval of tariff for **Asset 1**: Part of 400 kV D/C Navsari



Boisar transmission line from 45 A/0 to 69/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus), Part of 400 kV D/C Navsari-Boisar transmission line from 69/0 to 313/0 and Part of 400 kV D/C Navsari-Boisar from 313/0 to 332/0 (D/C portion strung on M/C Twin-Quad portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Aurangabad-Boisar); **Asset 2:** 240 MVAR Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 1 at Seoni sub-station; **Asset 3:** 240 MVA Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 2 at Seoni sub-station; **Asset 4:** Part of 400 kV D/C Vapi-Kudus transmission line from location 44-45 A/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus)- {400 kV D/C Navsari-Boisar portion from location 44 to 45 A/0 commissioned on 1.4.2014; **Asset 5:** Part of 400 kV D/C Vapi-Kudus transmission line from 45 A/0 to 69/0 (D/C portion strung on M/C Twin-Twin portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Vapi-Kudus), Part of 400 kV D/C Vapi-Kudus transmission line from 69/0-104/0 and Part of 400 kV D/C Aurangabad-Boisar from 313/0 to 332/0 (D/C portion strung on M/C Twin-Quad portion comprising of 400 kV D/C Navsari-Boisar and 400 kV D/C Aurangabad-Boisar) (hereinafter referred to as “transmission assets”) under “Transmission System associated with Mundra Ultra Mega Power Project” in Western Region (hereinafter referred to as “transmission system”) for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations”).

2. The petitioner in this petition has made the following prayers:-

(i) “Approve the transmission tariff for the tariff block 2014-19 block for the assets



covered under this petition;

(ii) Admit the capital cost as claimed in the petition and approve the additional capitalization incurred / projected to be incurred;

(iii) Tariff may be allowed on the estimated completion cost; Revised Cost Estimate –II for the project is under approval;

(iv) Allow the petitioner to approach the Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19;

(v) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided under Regulation 25 of the 2014 Tariff Regulations;

(vi) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure (if any) in relation to the filing of petition;

(vii) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014;

(viii) Allow the petitioner to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents;

(ix) Allow the Petitioner to bill and recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. Further, any taxes and duties including cess etc. imposed by any statutory/ Govt./ municipal authorities shall be allowed to be recovered from the beneficiaries;

(x) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if at any time GST on transmission is withdrawn from negative list at any time in future. Further, any taxes and duties including cess etc. imposed by any statutory/ Govt./ municipal authorities shall be allowed to be recovered from the beneficiaries;

(xi) Allow 90% of the Annual Fixed Charges in accordance with clause 7 (i) of Regulation 7 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges;

(xii) Allow the petitioner to bill from actual COD and also the petitioner may be allowed to submit revised management certificate and tariff forms (as per the relevant regulation) based on actual COD.”

3. The Investment Approval (IA) for the said system was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/Mundra dated 15.10.2008 at an estimated cost of ₹482412 lakh including an IDC of ₹44686 lakh (based on 1<sup>st</sup> Quarter, 2008 price level). Further, the Revised Cost Estimate (RCE) of the instant assets was approved by the Board of Directors of the petitioner vide letter dated 11.3.2016 for ₹507194 lakh including IDC of ₹43189 lakh (based on October, 2015 price level). The project was scheduled to be commissioned within 48 months from the date of approval of Board of Directors i.e. 15.10.2008.

4. The scheme was approved in the 25<sup>th</sup> Standing Committee meeting of Power System Planning of Western Region constituents held on 30.9.2006. The scope of work covered under the transmission system is broadly as follows:-

**Part (A): Transmission System associated with Mundra (4000 MW) UMPP**

**Transmission Lines:**

- i) Mundra - Limdi 400 kV D/C
- ii) Mundra-Bachchau-Ranchodpura 400 kV D/C
- iii) Mundra-Jetpur 400 kV D/C

**Part (B): Regional System Strengthening in WR for Mundra UMPP**

**Transmission Lines:**

- i) Gandhar-Navsari 400 kV D/C
- ii) Navsari-Mumbai (new location) 400 kV D/C
- iii) LILO of both circuits of Kawas-Navsari 220 kV D/C at Navsari
- iv) Wardha-Aurangabad 400 kV D/C (Quad) along with 40% FSC with provision to upgrade the line to 1200 kV S/C
- v) Aurangabad-Aurangabad (MSETCL) 400 kV D/C (Quad) line

**Sub-stations:**

- i) Establishment of new 400/200 kV, 2x315 MVA substations at Bachchau
- ii) Establishment of new 400/200 kV, 2x315 MVA GIS substations at Navsari



- iii) Establishment of new 400 kV GIS switching station at Mumbai (New location)
- iv) Establishment of new 765/400 kV, 3x1500 MVA substations at Wardha
- v) 765 kV line bays for operation of Seoni-Wardha 2xS/C lines at 765 kV level
- vi) Establishment of new 400/220 kV, 2x315 MVA substations at Aurangabad.

5. The above project scope has been covered in different petitions. The details of petitions under which the assets covered in the instant transmission system are covered are summarized under:-

S. No.	Scope as Approved in IA	Petition No.	Order Date
<b>Transmission Line</b>			
1	Mundra - Limdi 400 kV D/C (Triple Snowbird)	104/TT/2012	6.2.2014
2	Mundra - Bachchau - Ranchodpura 400 kV D/C (Triple Snowbird)	105/TT/2011 & 104/TT/2012	2.5.2013 & 6.2.2014
3	Mundra - Jetpur 400 kV D/C (Triple Snowbird)	64/TT/2012	3.7.2014
4	Gandhar - Navsari 400 kV D/C	64/TT/2012	3.7.2014
5(a)	Navsari - Mumbai (New location) 400 kV D/C-partly filed	57/TT/2013 & 185/TT/2014	15.3.2016 & 29.4.2016
5(b)	Part of Navsari – Mumbai (New location) 400 kV D/C being filed under the instant Petition	<b>Instant Petition</b>	
6	LILO of both circuits of Kawas - Navsari 220 kV D/C at Navsari	64/TT/2012	3.7.2014
7	Wardha – Aurangabad 400 kV D/C (Quad) along with 40% FSC with provision to upgrade the line to 1200 kV S/C at a later date	Shall be filed at a later date	
8	Aurangabad - Aurangabad (MSETCL) 400 kV D/C (quad) line	296/TT/2013 & 185/TT/2014	15.10.2015 & 29.04.2016
<b>Sub-station</b>			
1	Establishment of new 400/220 kV, 2X315 MVA sub-station at Bachchau	105/TT/2011	2.5.2013
2	Establishment of new 400/220 kV, 2X315 MVA sub-station at GIS sub-station at Navsari	64/TT/2012	3.7.2014
3	Establishment of 765/400 kV, 3X1500 MVA sub-station at Wardha	72/TT/2012 & 185/TT/2014 &	1.12.2014 & 29.4.2016&
4	765 kV line bays for operation of Seoni-Wardha 2XS/C lines at 765 kV level	<b>instant petition (SLRs at Seoni)</b>	instant petition
5	Establishment of new 400/220 kV, 2X315 MVA sub-station at Aurangabad	296/TT/2013	15.10.2015
6	2 nos. 80 MVAR Line Reactors for 400 kV D/C Wardha-Aurangabad transmission line ckt. 1 and 2 charged as Bus Reactors	101/TT/2014	31.12.2015



6. The petitioner has submitted the copy of Investment Approval and RCE Memorandum certified by Company Secretary, Copy of scope (DPR), Minutes from 25<sup>th</sup> and 32<sup>nd</sup> SCM of PSR of WR, Schematic diagram for the system/SLD, PERT and CPM chart. The petitioner has further submitted that the following three transmission lines under Mundra UMPP TS, WRSS-V and TS for Generation Projects in Chhattisgarh (IPP-D) are being implemented:-

- (i) 400 kV D/C Navsari Boisar transmission line (Mundra UMPP TS)
- (ii) 400 kV D/C Vapi - Kudus transmission line (WRSS-V)
- (iii) 400 kV D/C Aurangabad –Boisar (TS for Chhattisgarh Projects – IPP)

7. The petitioner has submitted that there are several stretches where portions of these lines are passing parallel to each other. During execution of the Project, there have been severe ROW issues in implementation of these transmission lines. To overcome the ROW issues, it was decided and agreed upon to construct the lines on multi-circuit towers at several stretches. Further, there has been change in scope and contingency arrangements from time to time which have also been approved and ratified at various forums.

8. The petitioner has further submitted that the multi-circuit stretches have been constructed to accommodate 400 kV D/C Navsari-Boisar transmission line under Mundra UMPP TS and 400 kV D/C Vapi-Kudus transmission line under WRSS-V TS and the portion of transmission lines have been booked in either of the projects, i.e. either under Mundra UMPP TS or under WRSS-V TS. Similarly, the multi-circuit stretches have been constructed to accommodate 400 kV D/C Navsari-Boisar transmission line under Mundra UMPP TS and 400 kV D/C Aurangabad-Boisar transmission line under IPP D (Chhattisgarh) and the portion



of transmission lines have been booked in either of the projects, i.e. either under Mundra UMPP TS or IPP-D (Chhattisgarh).

### **Switchable Line Reactors at Seoni**

9. The petitioner has submitted that the instant assets were put into commercial operation in tariff period 2014-19 and tariff was claimed under Petition No. 185/TT/2014 along with other assets of the instant Project. However, the Commission has excluded these assets from the final order observing that the same have already been considered in Petition No. 72/TT/2012.

10. The petitioner has submitted that, 765 kV line bays alongwith switchable line reactors at Seoni end for upgradation of 400 kV Seoni – Wardha D/C transmission line were filed under Petition No. 72/TT/2012. The line bays were put into commercial operation during 2009-14 tariff period but the switchable line reactors could not be put into commercial operation during that period because of delay due to withdrawal of assets from World Bank Funding and re-bidding.

11. The petitioner has further submitted that the cost of these switchable line reactors is not included in the cost of 765 kV line bays at Seoni under Petition No. 72/TT/2012, since these reactors were put into commercial operation on 2.5.2014 (Switchable Line Reactor for ckt.1) and on 1.4.2014 (Switchable Line Reactor for ckt.2) during the 2014-19 tariff period. The tariff for the same was claimed along with other assets in Petition No. 185/TT/2014 but were not granted tariff in order dated 29.4.2016. Hence, the petitioner has prayed that the said switchable line reactors at Seoni may be considered for approval of transmission tariff under the instant petition as the tariff for these Switchable Line Reactors was not approved under any of the petitions filed earlier.



### **Analysis on admissibility of the Scope**

12. We have examined the submissions. The assets covered in the present petition are covered under the scope of the scheme and agreed in the 25th Standing Committee meeting on transmission system planning of Western Region constituents held on 30.9.2006. The petitioner has changed the configuration of transmission lines in the several stretches where portions of these lines are passing approximately parallel to each other which were covered under different schemes i.e. Mundra UMPP TS, WRSS-V and TS for Generation Projects in Chhattisgarh (IPP-D). The petitioner has developed multi-circuit towers to overcome ROW issues in implementation of these transmission lines and apportioned the cost. It appears that though the transmission lines are covered under the separate project for carrying power of different suppliers, the petitioner has developed common towers and shared the cost.

13. The petitioner has initially claimed the 765 kV line bays alongwith switchable line reactors at Seoni end for up gradation of 400 kV Seoni – Wardha D/C transmission line under Petition No. 72/TT/2012. The Line bays were put into commercial operation during the 2009-14 period but the Switchable Line Reactors could not be put into commercial operation in 2009-14 period due to delay leading to withdrawal of the assets from World Bank Funding and re-bidding. The Switchable Line reactors were put into commercial operation during 2014-19 period. Therefore, the petitioner claimed tariff for the switchable reactors during 2014-19 period in Petition No. 185/TT/2014. However, the tariff of these assets was not allowed inadvertently in order dated 29.4.2016 in Petition No. 185/TT/2014 stating that the tariff was allowed in Petition No. 72/TT/2012. As such, the tariff of these assets is allowed in this order. However, the petitioner



is directed to adjust the cost of switchable line reactor including O&M cost allowed in previous petition at the time of truing-up of tariff. The petitioner is directed to submit such cost at the time of truing-up of tariff.

14. Annual Fixed Charges was allowed for the instant asset in order dated 6.3.2018 under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the POC computation.

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

(₹ in lakh)			
<b>Asset-1</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	199.12	874.91	950.61
Interest on Loan	217.46	910.56	915.96
Return on Equity	221.78	974.51	1058.85
Interest on Working Capital	16.02	68.76	72.65
O&M Expenses	40.20	164.36	169.81
<b>Total</b>	<b>694.58</b>	<b>2993.10</b>	<b>3167.88</b>

(₹ in lakh)					
<b>Asset-2</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	98.22	135.73	140.90	144.56	144.56
Interest on Loan	69.15	102.83	100.52	95.44	87.16
Return on Equity	112.50	157.11	163.15	167.22	167.22
Interest on Working Capital	10.70	13.93	14.29	14.52	14.50
O&M Expenses	77.16	87.22	90.12	93.11	96.20
<b>Total</b>	<b>367.73</b>	<b>496.82</b>	<b>508.98</b>	<b>514.85</b>	<b>509.64</b>

(₹ in lakh)					
<b>Asset-3</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	98.22	135.73	140.90	144.56	144.56
Interest on Loan	69.15	102.83	100.52	95.44	87.16
Return on Equity	112.50	157.11	163.15	167.22	167.22
Interest on Working Capital	10.70	13.93	14.29	14.52	14.50
O&M Expenses	77.16	87.22	90.12	93.11	96.20
<b>Total</b>	<b>367.73</b>	<b>496.82</b>	<b>508.98</b>	<b>514.85</b>	<b>509.64</b>

(₹ in lakh)					
<b>Asset-4</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	0.56	6.85	6.91	6.94	6.94
Interest on Loan	0.64	7.58	7.05	6.48	5.88
Return on Equity	0.62	7.63	7.70	7.73	7.73



Interest on Working Capital	0.05	0.60	0.59	0.59	0.57
O&M Expenses	0.13	1.67	1.72	1.78	1.84
<b>Total</b>	<b>2.00</b>	<b>24.33</b>	<b>23.97</b>	<b>23.52</b>	<b>22.96</b>

(₹ in lakh)

<b>Asset-5A</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Depreciation	32.52	130.12
Interest on Loan	34.95	132.67
Return on Equity	36.23	144.98
Interest on Working Capital	2.53	9.98
O&M Expenses	5.19	20.77
<b>Total</b>	<b>111.42</b>	<b>438.52</b>

(₹ in lakh)

<b>Asset-5B</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Depreciation	73.33	313.31
Interest on Loan	80.68	328.31
Return on Equity	81.71	349.09
Interest on Working Capital	5.71	23.92
O&M Expenses	10.88	44.47
<b>Total</b>	<b>252.31</b>	<b>1059.10</b>

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

(₹ in lakh)

<b>Asset-1</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	23.86	24.65	25.47
O & M Expenses	13.26	13.70	14.15
Receivables	458.12	498.85	527.98
<b>Total</b>	<b>495.24</b>	<b>537.20</b>	<b>567.60</b>
Rate of Interest	12.8	12.8	12.8
<b>Interest</b>	<b>63.39</b>	<b>68.76</b>	<b>72.65</b>

(₹ in lakh)

<b>Asset-2</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M Expenses	7.04	7.27	7.51	7.76	8.02
Receivables	67.06	82.80	84.83	85.81	84.94
<b>Total</b>	<b>86.76</b>	<b>103.15</b>	<b>105.86</b>	<b>107.54</b>	<b>107.39</b>
Rate of Interest	13.5	13.5	13.5	13.5	13.5
<b>Interest</b>	<b>11.71</b>	<b>13.93</b>	<b>14.29</b>	<b>14.52</b>	<b>14.50</b>

(₹ in lakh)

<b>Asset-3</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M Expenses	7.04	7.27	7.51	7.76	8.02



Receivables	55.99	67.57	79.87	91.14	90.17
<b>Total</b>	<b>75.69</b>	<b>87.92</b>	<b>100.9</b>	<b>112.87</b>	<b>112.62</b>
Rate of Interest	13.5	13.5	13.5	13.5	13.5
<b>Interest</b>	<b>10.22</b>	<b>11.87</b>	<b>13.62</b>	<b>15.24</b>	<b>15.20</b>

(₹ in lakh)

<b>Asset-4</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Maintenance Spares	0.23	0.25	0.26	0.27	0.28
O & M Expenses	0.13	0.14	0.14	0.15	0.15
Receivables	4.00	4.06	4.00	3.92	3.83
<b>Total</b>	<b>4.36</b>	<b>4.45</b>	<b>4.40</b>	<b>4.34</b>	<b>4.26</b>
Rate of Interest	135	13.5	13.5	13.5	13.5
<b>Interest</b>	<b>0.59</b>	<b>0.60</b>	<b>0.59</b>	<b>0.59</b>	<b>0.57</b>

(₹ in lakh)

	<b>Asset-5A</b>		<b>Asset-5B</b>	
	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Maintenance Spares	3.02	3.12	6.46	6.67
O & M Expenses	1.68	1.73	3.59	3.71
Receivables	71.96	73.09	166.42	176.52
<b>Total</b>	<b>76.66</b>	<b>77.94</b>	<b>176.46</b>	<b>186.90</b>
Rate of Interest	12.8	12.8	12.8	12.8
<b>Interest</b>	<b>9.81</b>	<b>9.98</b>	<b>22.59</b>	<b>22.92</b>

17. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003. MPPMCL, Respondent No. 1 has filed reply vide affidavit dated 27.11.2017 and the petitioner vide affidavit dated 16.2.2018 has filed its rejoinder to the said reply. The objections raised by the respondent and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

18. Having heard the petitioner and perused the material on record, we proceed to dispose of the petition.

#### **Date of commercial operation (COD)**

19. The petitioner had submitted that the actual COD of Assets-1, 2, 3 and 4 was 31.12.2016, 2.5.2014, 1.4.2014 and 1.3.2015 respectively. The petitioner,



vide affidavit dated 28.3.2018, has submitted that Asset 5 has been bifurcated into Asset-5A and Asset-5B and has submitted the actual COD as 29.12.2017 and 31.12.2017 respectively and also submitted revised tariffs form based on their actual COD. Accordingly, the COD of the instant assets as per affidavits dated 13.7.2017, 10.1.2018 and 28.3.2018 are as follows:-

<b>Assets</b>	<b>COD (Actual)</b>
<b>Asset-1</b>	31.12.2016
<b>Asset-2</b>	2.5.2014
<b>Asset-3</b>	1.4.2014
<b>Asset-4</b>	1.3.2015
<b>Asset-5A</b>	29.12.2017
<b>Asset-5B</b>	31.12.2017

20. The petitioner has submitted the following documents in support of COD:-

i) "Vide affidavit dated 13.7.2017, the petitioner in support of commissioning of COD for Asset-1 has submitted COD letter dated 9.1.2017, RLDC charging certificate dated 6.1.2017 and CEA certificate dated 27.12.2016 under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010;

ii) Vide affidavit dated 13.7.2017, the petitioner has submitted COD letter dated 2.5.2014 for Asset-2 and for Asset-3 has submitted COD letter dated 1.4.2014, RLDC charging certificate dated 9.7.2014 and CEA certificate dated 28.3.2014 under Regulation 43 of the CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 and for Asset-4 has submitted COD letter dated 1.3.2015, RLDC charging certificate dated 19.3.2015;

iii) Vide affidavit dated 10.1.2018, the petitioner has submitted RLDC charging certificate dated 1.1.2018 and 9.1.2018, COD letter dated 12.1.2018, CMD Certificate as required under Grid code and CEA certificate dated 18.9.2017 and 23.12.2017 for Asset-5A and Asset-5B under Regulation 43 of the CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010.

iv) Vide affidavit dated 21.5.2018, the petitioner has submitted the CMD Certificate for Asset-1, Asset-2, Asset-3 and Asset-4. These assets were commissioned prior to the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Fourth Amendment) Regulations i.e. 6.4.2017. Hence, CMD certificate is not applicable for these assets.

v) Vide affidavit dated 21.5.2018 has submitted RLDC Charging certificate dated 9.7.2014 for Asset-2 and dated 19.3.2015 for Asset-4.



vi) Vide affidavit dated 21.5.2018, the petitioner has submitted the CEA certificate dated 28.3.2014 for Asset-2 under Regulation 43 of the CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010.

vii) Vide affidavit dated 21.5.2018, the petitioner has submitted the status of Seoni-Wardha Line as under:

Asset	COD	Project	POC Petition No.	Truing-up Petition	Order date of Truing-up Petition
765 kV Seoni-Wardha Ckt-1 transmission line	1.4.2009	Sipat-II Supplementary	180/TT/2010	6/TT/2015	29.3.2016
765 kV Seoni-Wardha Ckt-2 transmission line	1.3.2012	WRSS-II Set-A	78/TT/2012	39/TT/2016	28.6.2016

viii) As per the Investment Approval dated 15.10.2008, the instant assets were schedule to be commissioned within 48 months i.e. 15.10.2012. However, in various SCM meeting like 30<sup>th</sup> SCM meeting held of the scheduled date was shifted.”

21. We have considered the submissions made by the petitioner and examined the RLDC and CEA certificates in support of trial operation, date of commercial operation of the instant assets. Further, 765 kV Seoni-Wardha Ckt-1 and 2 transmission line has been put under commercial operation prior to the commercial operation of the line reactor covered under Asset-2 and Asset-3. Accordingly, the COD of the Assets-1, 2, 3, 4, 5A and 5B is approved as 31.12.2016, 2.5.2014, 1.4.2014, 1.3.2015, 29.12.2017 and 31.12.2017 respectively.

### **Capital cost**

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

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

(2) The Capital Cost of a new project shall include the following:



- (a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- (c) Increase in cost in contract packages as approved by the Commission;
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- (e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- (f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- (g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- (h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

23. The petitioner has submitted Auditor Certificate dated 3.2.2017, 15.2.2017, 15.2.2017 and 22.11.2016 for Assets-1, 2, 3 and 4 respectively which shows the capital cost claimed by the petitioner and Additional Capital Expenditure (ACE) for the period from 2014-15 to 2018-19. Further, the petitioner has submitted that Asset-5 was bifurcated as Asset-5A and Asset-5B and accordingly submitted the capital cost claimed as on COD and ACE for the period from 2014-15 to 2018-19. The details of capital cost claimed upto COD and for the period 2014-19 is as under:-

Assets	Apportioned approved cost as per FR	Apportioned Approved Cost as per RCE	Expenditure up to COD	Estimated Expenditure					Total Completion Cost
				2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-1	18721.68	25329.91	14736.04	0.00	0.00	917.86	2058.07	572.88	18284.85
Asset-2	4634.85	2908.98	1562.01	1075.27	66.64	138.54	0.00	0.00	2842.46
Asset-3	5958.53	3665.62	1263.05	785.16	53.58	919.78	0.00	0.00	3021.57
Asset-4	206.14	316.40	130.37	0.00	0.00	1.15	0.00	0.00	131.52
Asset-5A	4953.49	4075.90	2446.15	0.00	0.00	0.00	20.94	64.94	2532.04

(₹ in lakh)



Asset-5B		9708.739	5254.63	0.00	0.00	0.00	680.24	96.39	6031.26
<b>Total</b>	<b>34474.69</b>	<b>46005.55</b>	<b>25392.25</b>	<b>1860.43</b>	<b>120.22</b>	<b>1977.33</b>	<b>2759.25</b>	<b>734.21</b>	<b>32843.69</b>

### **Cost variation**

24. The total estimated completion cost including additional capital expenditure of the instant asset is ₹32843.69 lakh against revised apportionment approved cost of ₹46005.55 lakh and accordingly there is no cost over-run. However, there is a cost variation of ₹1631 lakh (4.73%) as per FR cost of ₹34474.69 lakh and cost variation of ₹13161.86 lakh (28.60%) as per RCE cost of ₹46005.55 lakh. It is observed that the petitioner has claimed ₹13161.86 lakh less than revised apportionment approved cost of ₹46005.55 lakh.

25. The Commission, vide RoP of the hearing dated 24.4.2018, had directed the petitioner to submit the break-up of cost under various heads for variation in FR cost and RCE approved cost. In response, the petitioner vide affidavit dated 21.5.2018 has submitted the break-up of cost under various heads and the same is as under:-

(₹ in lakh)				
<b>Asset-1</b>	<b>FR cost</b>	<b>RCE cost</b>	<b>Variation</b>	<b>Reasons</b>
Forest clearance and compensation	579.94	4500.00	3920.06	The variation is due to change in compensation policy. As per the revised compensation policy, PGCIL had to pay land cost to land owner in following heads in addition to crop/Tree compensation; 1) 85% of Land Cost under the Tower Foot. 2) 15% land cost of the Line corridor According to law, the cost of land would be decided by concerned revenue authorities of the district and same would be conveyed to PGCIL
Transmission Line	6686.83	17565.57	10878.75	The increase in cost under transmission line head is due to introduction of M/C towers to reduce ROW issues and higher price of transmission line material received in competitive bidding.
Site preparation	1710	0.00	(-)1710.00	During cost estimation for FR, site preparation cost was considered. In actual execution, site was found levelled.





				Hence, no cost has been considered in RCE under this head.
Building & Civil Works	1404.000	194.16	(-1209.84)	The requirement of cable trench, drains, PCC and stone spreading etc. decreased in actual during detail engg. as compared to estimated quantity. Hence, the cost under Building & Civil works has been decreased.
Sub-station	5500.22	920.17	(-4580.05)	FR was prepared considering GIS, However due to change in location AIS was constructed. Therefore cost has reduced in RCE.
IDC	1400.68	1700.00	299.32	During estimation for FR, IDC is considered as standard 10.5% for the complete project period. The actual amount of IDC has been taken at the time of claim.
Establishment, contingency & IEDC overheads etc	1440.02	450.00	(-990.02)	During estimation for FR 3% and 5 % of equipment cost has been considered for contingency and IEDC respectively alongwith establishment cost. The actual amount of IEDC, establishment and contingency has been taken at the time of claim.
<b>Total</b>	<b>18721.69</b>	<b>25329.90</b>	<b>(-1725.87)</b>	

(₹ in lakh)

Asset-2	FR cost	RCE cost	Variation	Reasons
Building & Civil Works	372.38	258.26	(-114.12)	The requirement of cable trench, drains, PCC and stone spreading etc. has been reduced in actual during detail engineering as compared to estimated quantity. Hence, the cost under Building and Civil works has decreased even though higher rates were received in competitive bidding.
Sub-station	3559.26	2322.25	(-1237.01)	The reduction in cost under substation head is due to lower price of reactor received in competitive bidding.
IDC	409.06	276.06	(-) 133.00	During estimation for FR, IDC is considered as standard 10.5% for the complete project period. The actual amount of IDC has been taken at the time of claim.
IEDC	294.15	52.41	(-241.74)	During estimation for FR, 5% of equipment cost has been considered as IEDC. The actual amount of IEDC has been taken at the time of claim.
<b>Total</b>	<b>4634.85</b>	<b>2908.98</b>	<b>(-1725.87)</b>	

(₹ in lakh)

Asset-3	FR Cost	RCE cost	Variation	Reason
Building & Civil Works	411.48	233.72	(-) 177.76	The requirement of cable trench, drains, PCC and stone spreading etc. has



				reduced in actual during detail engineering as compared to estimated quantity. Hence the cost under Building and Civil Works has decreased even though the higher rates were received in competitive bidding.
Sub-station	4643.01	3017.99	(-)1625.02	The reduction in cost under sub-station head is due to lower price of Reactor received in competitive bidding. Further, as per FR 400kV relay panel at Seoni sub-station for 2X765 kV S/c Wardha –Seoni line (charged at 400 kV) is being used on 765 kV side.
IDC	525.88	347.87	(-)178.01	During estimation for FR, IDC is considered as standard 10.5% for the complete project period. The actual amount of IDC has been taken at the time of claim.
IEDC	378.16	66.04	(-)312.12	During estimation for FR, 5% of equipment cost has been considered as IEDC. The actual amount of IEDC has been taken at the time of claim.
<b>Total</b>	<b>5958.53</b>	<b>3665.62</b>	<b>(-)2292.91</b>	

(₹ in lakh)

Asset-4	FR cost	RCE cost	Variation	Reasons
Transmission Line	174.87	292.83	117.96	The increase in cost under transmission line head is due to introduction of M/C towers to reduce ROW issues and higher price of transmission line material received in competitive bidding.
IDC	18.19	15.83	(-)2.36	During estimation for FR, IDC is considered as standard 10.5% for the complete project period. The actual amount of IDC has been taken at the time of claim.
Establishment, contingency & IEDC overheads etc	13.08	7.74	(-)5.34	During estimation for FR 3% and 5 % of equipment cost has been considered for contingency and IEDC respectively alongwith establishment cost. The actual amount of IEDC, establishment and contingency has been taken at the time of claim.
<b>Total</b>	<b>206.14</b>	<b>316.4</b>	<b>110.26</b>	

(₹ in lakh)

Asset-5A	FR cost	RCE cost	Variation	Reasons
Transmission Line	1047.6	3673.3	2625.7	The increase in cost under transmission line head is due to introduction of M/C towers to reduce ROW issues and higher price of transmission line material received in competitive bidding.
IDC	109.02	522.27	413.25	During estimation for FR, IDC is considered as standard 10.5% for the complete project



				period. The actual amount of IDC has been taken at the time of claim.
Establishment, contingency & IEDC overheads etc	78.39	305.37	226.98	During estimation for FR 3% and 5 % of equipment cost has been considered for contingency and IEDC respectively alongwith establishment cost. The actual amount of IEDC, establishment and contingency has been taken at the time of claim.
<b>Total</b>	<b>1235.01</b>	<b>4500.94</b>	<b>3265.93</b>	

(₹ in lakh)

Asset-5B	FR cost	RCE cost	Variation	Reasons
Forest clearance and compensation	411.01	703	291.99	Due to change in compensation policy. As per the revised compensation policy, PGCIL has to pay land cost to land owner in following heads in addition to crop/Tree compensation; 1) 85% of land cost under the Tower Foot. 2) 15% land cost of the Line corridor According to law, the cost of land would be decided by concerned revenue authorities of the district and same would be conveyed to PGCIL
Transmission Line	2743.21	7233.59	4490.38	The increase in cost under transmission line head is due to introduction of M/C towers to reduce ROW issues and higher price of transmission line material received in competitive bidding.
IDC	328.24	996.11	667.87	During estimation for FR, IDC is considered as standard 10.5% for the complete project period. The actual amount of IDC has been taken at the time of claim.
Establishment, contingency & IEDC overheads etc	236.03	351	114.97	During estimation for FR 3% and 5 % of equipment cost has been considered for contingency and IEDC respectively alongwith establishment cost. The actual amount of IEDC, establishment and contingency has been taken at the time of claim.
<b>Total</b>	<b>3718.49</b>	<b>9283.7</b>	<b>5565.21</b>	

26. We have examined the submissions. The cost variation is due to reasons not attributable to the petitioner. The estimated completion cost of the instant assets is lower than the FR cost. The reduction in the cost is due to change in forest clearance and compensation policy and change in lines from D/C to M/C. Therefore, the cost variation is approved.



### **Time over-run**

27. As per the Investment Approval (IA) dated 15.10.2008, the instant assets were schedule to be put into commercial operation within 48 months i.e. 15.10.2012. However, the instant assets were put into commercial operation as per the details given below:-

<b>Asset</b>	<b>Time line</b>	<b>Scheduled COD as per IA</b>	<b>COD</b>	<b>Delay</b>
Asset-1	48 months	15.10.2012	31.12.2016	50 months 17 days
Asset-2			2.5.2014	18 months 18 days
Asset-3			1.4.2014	17 months 18 days
Asset-4			1.3.2015	28 months 15 days
Asset-5A			29.12.2017	62 months 15 days
Asset-5B			31.12.2017	62 months 17 days

28. The petitioner has submitted that delay in case of Asset-1 is due to change in termination point of 400 kV D/C Navasri-Mumbai (New location) to Boisar instead of Mumbai (New location) and shifting of zero date for the purpose of implementation of transmission line, due to delay in obtaining the forest approval, ROW issues. The time over-run in case of Asset-2 and Asset-3 is due to delay in purchase of 2X240 MVAR Switchable line reactors for 765 kV Seoni-Wardha ckt.-1 and 2 at Seoni Sub-station due to lengthy process of getting NOC to the bidding documents from World Bank. Further, the petitioner has submitted that the delay in case of Asset-4 and Asset-5 is due to delay of portions of 400 kV Vapi-Kudus transmission line and portions of 400 kV D/C Aurangabad-Boisar transmission line. The petitioner has submitted the chronology of events alongwith supporting documents, PERT and CPM chart for delay as cited above.

29. MPPMCL vide affidavit dated 27.11.2017 has submitted as under:-



- (a) As regards the time over-run in COD of Asset-1, the approval for changing in termination point of Mumbai (new location) to Boisar was agreed and approved in the 30<sup>th</sup> Standing Committee of power system planning of western region on 8.7.2010, but the petitioner did not take initiative quickly and delayed it for 8 months and did not take further necessary action. Therefore, the delay is attributable to the petitioner. Further, the petitioner has not submitted the detailed PERT chart which actually shows the delay and work on the location and accordingly the petitioner's claim on the ground of RoW issues may be rejected.
- (b) As regards the time over-run in COD of Asset-2 and Asset-3, the petitioner has on many occasions failed to pursue on time. The loan as recovered was signed in October, 2009 but the petitioner has forwarded the bidding documents to World Bank on 23.3.2010, which caused a delay of 6 month. The petitioner has published NIT on 26.3.2010 which could have done earlier. After the whole process of NOC to the World Bank, the petitioner was having more than 21 months for commissioning of reactors and accordingly, such claim should be rejected and delay should not be condoned.
- (c) As regards, delay in COD of Asset-4 and Asset-5, the time over-run has been attributable to the delay in COD of the balance portion of 400 kV D/C Vapi-Kudus transmission line which comes out to 58 months, in which 50 months delay was common to the Asset-1 and accordingly the reason given for delay by petitioner is not acceptable as the petitioner has failed to explain the ROW issues in petition and such claim is liable to be rejected.



(d) As regards, portion of 400 kV D/C Aurangabad-Boisar transmission line relating to Asset-5, the petitioner has not provided statutory documents like CPM, PERT for the particular asset in the petition. Therefore, the justification of the petitioner is not sufficient and delay for Asset-5 shall not be condoned.

30. In response, the petitioner in its rejoinder dated 16.2.2018 has submitted that delay in COD of the assets under instant petition is mainly due to change in termination point of 400 kV D/C Navsari-Mumbai (New location) to Boisar instead of Mumbai (New location), ROW issues, delay in forest clearance and 'No objection' from World Bank which were beyond the control of the petitioner. However, the detailed justification of delay in the COD of all the assets under instant petition along with documentary evidences supporting the justification of delay has been submitted in the petition and accordingly, petitioner has requested to condone the entire time over-run in COD of the instant assets and to allow full cost tariff as claimed under the petition.

31. The petitioner was directed to submit the reasons for time over-run and chronology of the time over-run along with documentary evidence. In response, the petitioner has furnished the following details:-

Srl. No.	Activity	Envisaged		Actual		Remarks
		Starting Date	Date of Completion	Starting Date	Date of Completion	
	<b>Asset-1</b>					(1) Delay due to change in termination point of 400 kV D/C Navsari-Mumbai (New
<b>A</b>	<b>400 kV D/C Navsari-Boisar transmission line (from 45A/0 upto 69/0) (Part of M/C transmission line)</b>					
1	Investment Approval by Board		-	15.10.2008		
2	LOA		15.7.2010	24.3.2011		



3	Material Supply	23.9.2010	31.5.2012	30.4.2012	30.6.2016	location) to Boisar instead of Mumbai (New location). (2) Delay in forest clearance (3) ROW issues	
4	Foundation	26.10.2010	14.6.2012	7.9.2012	25.10.2016		
5	Tower Erection	5.1.2011	10.7.2012	9.10.2012	2.12.2016		
6	Stringing	26.4.2011	11.9.2012	5.11.2013	23.12.2016		
7	Testing and Commissioning	11.9.2012	15.10.2012	23.12.2016	31.12.2016		
<b>B</b>	<b>400 kV D/C Navsari-Boisar transmission line (from 69/0 upto 313/0)</b>						Detailed justification of delay has been furnished in the petition.
1	Investment Approval by Board	-		15.10.2008			
2	LOA	15.7.2010		24.3.2011			
3	Material Supply	23.9.2010	31.5.2012	30.9.2011	30.6.2016		
4	Foundation	26.10.2010	14.6.2012	11.10.2011	23.6.2016		
5	Tower Erection	5.1.2011	10.7.2012	30.11.2011	25.7.2016		
6	Stringing	26.4.2011	11.9.2012	24.2.2013	18.12.2016		
7	Testing and Commissioning	11.9.2012	15.10.2012	18.12.2016	31.12.2016		
<b>C</b>	<b>400 kV D/C Navsari-Boisar transmission line (from 313/0 upto 332/0) (Part of M/C transmission line)</b>						
1	Investment Approval by Board	-		15.10.2008			
2	LOA	15.7.2010		24.3.2011			
3	Material Supply	23.9.2010	31.5.2012	30.4.2012	30.6.2016		
4	Foundation	26.10.2010	14.6.2012	25.4.2012	24.10.2016		
5	Tower Erection	5.1.2011	10.7.2012	13.6.2012	16.11.2016		
6	Stringing	26.4.2011	11.9.2012	16.12.2015	18.12.2016		
7	Testing and Commissioning	11.9.2012	15.10.2012	18.12.2016	31.12.2016		

<b>Asset-2</b>						
<b>D</b>	<b>240 MVAR Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 1 at Seoni sub-station</b>					
1	Investment Approval by Board	-		15.10.2008		Delay in NOC to the bid documents as per World Bank guidelines
2	LOA	18.11.2008		3.8.2012		
3	Material Supply	10.3.2009	11.6.2012	20.12.2012	18.9.2013	
4	Civil works and erection	21.4.2009	13.8.2012	8.1.2012	24.3.2014	
5	Testing and Commissioning	14.8.2012	16.9.2012	25.4.2014	2.5.2014	

<b>Asset-3</b>						
<b>E</b>	<b>240 MVAr Switchable Line Reactor for 765 kV Seoni-Wardha Ckt. 2 at Seoni sub-station</b>					
1	Investment Approval by Board	-		15/10/08		Delay in NOC to the bid documents as per World Bank guidelines
2	LOA	18.11.2008		3.8.2012		
3	Material Supply	10.3.2009	11.6.2012	20.12.2012	18.9.2013	
4	Civil works and erection	21.4.2009	13.8.2012	8.1.2012	24.3.2014	
5	Testing and Commissioning	14.8.2012	16.9.2012	15.2.2014	1.4.2014	



S.No	Activity	Envisaged		Actual		Remarks
		Starting Date	Date of Completion	Starting Date	Date of Completion	
<b>F</b>	<b>Asset- 4</b>					<ul style="list-style-type: none"> <li>• Severe ROW issues</li> <li>• This M/C portion was ready from 1.4.2014. However, it could not be put under commercial operation as it was to be commissioned with Vapi-Kala transmission line from 38/0 to 44 for power flow point of view, which was also delayed due to severe ROW issue.</li> </ul>
	<b>400 kV D/C Vapi-Kudus transmission line (from 44/0 upto 45A/0) (Part of M/C transmission line)</b>					
1	Investment Approval by Board		-		15.10.2008	
2	LOA		15.7.2010		24.3.2011	
3	Material Supply	23.9.2010	31.5.2012	30.4.2012	31.12.2013	
4	Foundation	26.10.2010	14.6.2012	7.10.2012	17.12.2013	
5	Tower Erection	5.1.2011	10.7.2012	24.10.2012	28.1.2014	
6	Stringing	26.4.2011	11.9.2012	5.11.2013	2.3.2014	
7	Testing and Commissioning	11.9.2012	15.10.2012	2.3.2014	1.3.2015	

<b>Asset 5-A</b>						
<b>G</b>	<b>400 kV D/C Aurangabad-Boisar transmission line (from 313/0 upto 332/0) (Part of M/C transmission line)</b>					<p>* 400 kV M/C Transmission Line from location from 313/0 upto 332/0 comprises of 400 kV D/C Navsari-Boisar from 313/0 upto 332/0 and 400 kV D/C Aurangabad-Boisar from 313/0 upto 332/0 &amp; the 400 kV D/C Navsari-Boisar portion was already commissioned on 31.12.2016. So, the stringing was already complete on 18.12.2016 itself. The Aurangabad-Boisar portion from 313/0 upto 332/0 was commissioned with complete Aurangabad-Boisar Line.</p>
1	Investment Approval by Board		-		15.10.2008	
2	LOA		15.7.2010		24.3.2011	
3	Material Supply	23.9.2010	31.5.2012	30.4.2012	30.6.2016	
4	Foundation	26.10.2010	14.6.2012	25.4.2012	24.10.2016	
5	Tower Erection	5.1.2011	10.7.2012	13.6.2012	16.11.2016	
6	Stringing	26.4.2011	11.9.2012	16.12.2015	18.12.2016	
7	Testing and Commissioning	11.9.2012	15.10.2012	18.12.2016	29.12.2017	

<b>ASSET 5-B</b>						
<b>E</b>	<b>400 kV D/C Vapi-Kudus transmission line (from 45A/0 upto 69/0) (Part of M/C transmission line)</b>					<p>* 400 kV M/C Transmission Line from 45A/0 upto 69/0 comprises of 400 kV D/C Navsari-Boisar from 45A/0 upto 69/0 and 400 kV D/C Vapi-Kudus from 45A/0 upto 69/0 &amp; the 400</p>
1	Investment Approval by Board		-		15.10.2008	
2	LOA		15.7.2010		24.3.2011	
3	Material Supply	23.9.2010	31.5.2012	30.4.2012	30.6.2016	
4	Foundation	26.10.2010	14.6.2012	7.9.2012	25.10.2016	
5	Tower Erection	5.1.2011	10.7.2012	9.1.2012	2.12.2016	
6	Stringing	26.4.2011	11.9.2012	5.11.2013	23.12/.2016	





						kV D/C Navsari-Boisar portion was already commissioned on 31.12.2016. So, the stringing was already completed on 31.12.2016 itself. And the Vapi-Kudus portion was commissioned with complete Vapi-Kudus line.
7	Testing and Commissioning	11.9.2012	15.10.2012	23.12.2016	31.12.2017	
<b>400 kV D/C Vapi-Kudus transmission line (from 69/0 upto 104/0)</b>						
1	Investment Approval by Board	-		15.10.2008		The 400 kV D/C Vapi-Kudus line beyond location 104/0 was not ready so, 400 kV D/C Vapi-Kudus line from 69/0 to 104/0 got commissioned on 31.12.2017
2	LOA	15.7.2010		24.3.2011		
3	Material Supply	23.9.2010	31.5.2012	30.4.2012	30.8.2017	
4	Foundation	26.10.2010	14.6.2012	25.9.2011	15.10.2017	
5	Tower Erection	5.1.2011	10.7.2012	10.11.2011	26.10.2017	
6	Stringing	26.4.2011	11.9.2012	23.11.2014	25.12.2017	
7	Testing and Commissioning	11.9.2012	15.10.2012	28.6.2017	31.12.2017	

32. The petitioner has submitted that rigorous efforts were made to identify land as per the original scheme and the process of land identification for acquisition under Section 68 of Electricity Act, 2003 was started soon after approval from Ministry of Power on 21.8.2007. Difficulties were faced in finalizing land for Navi Mumbai (new location) such as ROW issues, non-availability of adequate corridor and lack of proper approach/ connectivity specifically for transportation of heavy equipments. Therefore, in the interest of the project, it was proposed to change the termination point from Navi Mumbai to Kudus. The approval for change in termination point of Vapi – Navi Mumbai (new location) to Kudus was agreed and approved in the 35<sup>th</sup> Standing Committee of Power System planning of Western Region held on 3.1.2013 i.e. 38 months after the investment approval dated 15.10.2008, thereby shifting the zero date from 15.10.2008 (as per IA) to 3.1.2013. Considering the completion time schedule of



48 months, the revised completion schedule works out to 3.1.2017. Efforts were made to complete the erection and stringing of the instant line and finally, 400 kV D/C Vapi-Kudus from 44/0 to 45A/0 was completed and put under commercial operation on 1.3.2015. Thus, there is no time delay in COD of Asset-4. Further, 400 kV M/C Transmission Line from location 44/0 to 45A/0 comprises of 400 kV D/C Navsari-Boisar from 44/0 to 45A/0 and 400 kV D/C Vapi-Kudus from 44/0 to 45A/0. The 400 kV D/C Navsari-Boisar portion was put into commercial operation on 1.4.2014 with a delay of 17 months and 19 days and has been covered under Petition no. 185/TT/2014. The Commission in its order dated 29.4.2016 in Petition No. 185/TT/2014, after prudence check had condoned the delay of 17 months and 19 days in the COD of 400 kV D/C Navsari-Boisar from 44/0 to 45A/0 on account of ROW issues. Since, the reasons of delay of 400 kV D/C Vapi-Kudus from 44/0 to 45A/0 are same as the reasons of delay of 400 kV D/C Navsari-Boisar from 44/0 to 45A/0, as they are both strung on same M/C towers. Accordingly, the petitioner has requested to condone the delay upto 1.4.2014 (i.e. 17 months and 19 days) in the COD of 400 kV D/C Vapi-Kudus from 44/0 to 45A/0 on the same count. Further, the line was constructed and stringing was completed by 2.3.2014. The 400 kV D/C Vapi-Kudus from 44/0 to 45A/0 was put into commercial operation along with Part of 400 kV D/C Vapi - Kudus transmission line from AP 38/0 to AP 44 (Covered in WRSS-V under Diary no. 162/2018) on 1.3.2015. Since the delay in COD of Asset-4 was beyond its control, the petitioner requested to condone the entire delay and allow full cost and tariff as claimed in the petition.

33. We have considered the submissions of the petitioner and respondents. As per IA dated 15.10.2008, the instant assets were to be put into commercial



operation within 48 months i.e. 15.10.2008. However, the instant assets were put into commercial operation from 1.4.2014 to 31.12.2017. Hence, there is a time over-run varying from 17 months 18 days to 62 months 17 days in case of the instant assets. Asset-wise time overrun is discussed as under:-

### **Asset-1**

34. Asset-I was put into commercial operation on 31.12.2016 with time over-run of 50 months 17 days. After investment approval dated 15.10.2008, the LOA was placed on 24.3.2011 i.e. with a delay of 29 months 10 days. The petitioner has submitted that delay is mainly on account of delay due to change in termination point of 400 kV D/C Navsari-Mumbai (new location) to Boisar instead of Mumbai (new location), delay in forest clearance and ROW issues.

35. The petitioner has submitted that rigorous efforts were made to identify land as per the original scheme and the process of land identification for acquisition under Section 68 of Electricity Act, 2003 was started soon after approval from Ministry of Power on 21.8.2007. Efforts for identification and finalization of land for Mumbai (new location) sub-station were started prior to the Investment Approval, with request letter dated 13.3.2008 to Chief Engineer (SP&PA), CEA, New Delhi to convene a meeting of CEA, MSETCL and PGCIL for discussion on location of proposed new sub-station near Mumbai. Further, in the Joint inspection meeting dated 14.10.2008 it was expressed by the Power Utilities that identification of land near Ghodbunder/ Nalasopara shall be more suitable for establishment of Mumbai GIS-2 so as to enable power supply to Mumbai area. However, even after several Meetings and correspondence, continuous efforts and co-ordination with the State Authorities and State



DISCOMs, allocation of land for Mumbai (new location) could not be materialized. The difficulties faced in finalizing land for Mumbai (new location) such as RoW issues, non-availability of adequate corridor, lack of proper approach/connectivity specifically for transportation of heavy equipment were also discussed, in the 28<sup>th</sup> and 29<sup>th</sup> SCM of Power System Planning of WR Constituents held on 6.12.2008 (MOM issued on 23.12.2008) and 10.9.2009 respectively. Simultaneously, efforts were also being made to identify private land in view of difficulty in obtaining Government land as per letter dated 11.4.2009 and project review dated 1.6.2009 and subsequent follow up vide document dated 21.8.2009, 17.9.2009, 1.10.2009 and 22.10.2009. Finally, approval for change in termination point of Navsari – Mumbai (new location) to Boisar was agreed and approved in the 30<sup>th</sup> Standing Committee of Power System planning of Western Region held on 8.7.2010 (MoM issued on 8.8.2010). It took around 22 months for finalization of the location thereby shifting the zero date from 15.10.2008 (as per IA) to August, 2010.

36. After the Investment Approval dated 15.10.2008, the work was delayed due to change in termination point of 400 kV D/C Navsari-Mumbai (New location) to Boisar instead of Mumbai (New Location) from 4.11.2008 to 8.7.2010 i.e. a total time period of 20 months 5 days were affected. We are of the view that the total delay of 20 months 5 days due to change in termination point of 400 kV D/C Navsari-Mumbai (New location) to Boisar instead of Mumbai (New Location) from date 4.11.2008 to 8.7.2010 were beyond the control of the petitioner and accordingly, the time over-run of 20 months 5 days i.e. from date 4.11.2008 to 8.7.2010 is condoned.



37. As regards delay in grant of forest approval, it is observed that the petitioner carried out the preliminary survey and thereafter the detailed survey, which was pre-requisite for preparation and submission of forest proposal. The program related to survey of the line and requirement of assistance from forest staff was conveyed to DCF, Dahanu on 13.6.2011 and the clearance of which was given vide letter dated 29.7.2011. There was total forest involvement of about 56.86 Ha in the State of Maharashtra. The proposal for forest clearance was prepared in August, 2011 and submitted to District Conservator of Forest Dahanu and DCF Jawahar on 2.9.2011. In the instant case, Stage-I clearance was received on 16.3.2016 and work permission was received on 16.4.2016 from Revenue and Forest Department, Government of Maharashtra which took about 55 months against the specified time limit of 10 months by GOI. As per MOEF notification dated 3.2.2004 forest approval takes about 10 months involving the area of more than 40 Hectares. It is observed from the chronology of events that against the 10 months guidelines, the time taken for approval was 54 months 14 days. Thus, an additional time of 44 months 14 days has occurred due to delay in forest approval. Therefore, we are of the view that the delay due to forest approval/clearance from 2.9.2011 to 15.3.2016 is beyond the control of the petitioner and hence same is condoned.

38. As regards ROW issues, after getting Stage-I forest clearance on 15.3.2016 and work permit on 16.4.2016, the petitioner has stated that it took up the transmission line work on war footing with mobilization of the contractor men and material and tried to squeeze the work schedule. The tree cutting and foundation work in forest area was started but the construction works were not allowed in the villages close to forest area by the villagers. The progress of the



project was apprised to Collector, from time to time. Severe ROW issues were encountered during execution of 400 kV D/C Navsari – Boisar due to which several portions have been implemented on Multi-Circuit towers to accommodate the parallel passing 400 kV D/C Vapi - Kudus on the same tower stretch. The petitioner has submitted that tower foundation and erection works in Non-Forest locations of the Navsari - Boisar line have been completed prior to forest approval. However, stringing in non-forest area for some locations was required to be carried out alongwith the locations of the forest stretches (31 Locs.) in order to form stringing sections to facilitate paying out of conductor and final sagging. Severe ROW issues were encountered during the above stringing works in non-forest area for which rigorous efforts were made and regular follow-up with State Authorities was undertaken including request for deployment of Police protection at several locations and at regular time intervals, through letters dated 10.6.2015, 9.7.2015, 22.11.2015, 4.12.2015, 7.4.2016, 13.4.2016, 7.5.2016, 22.6.2016, 14.7.2016, 12.8.2016, 12.9.2016, 1.10.2016, 7.11.2016, 26.11.2016. The issues were resolved only after involvement of State and District Authorities and the line was commissioned and put under COD on 31.12.2016 after approximately 8 months from getting forest work permit (16.4.2016). Further, the difficulties due to ROW were also discussed during various SCMs from 32<sup>nd</sup> to 40<sup>th</sup> as indicated in the chronology of events submitted by the petitioner.

39. It is observed from the chronology of events that severe ROW issues were encountered during the above stringing works in non-forest area for which efforts were made and regular follow-up with State Authorities was undertaken including request for deployment of police protection at several locations. Thus, due to ROW issues the work was affected between 10.6.2015 to 26.11.2016 i.e. a total



time of 17 months 17 days were affected due to ROW issues. Accordingly, the delay due to ROW issues for the period 17 months 17 days is beyond the control of the petitioner and hence same is condoned. The brief summary of time over-run as discussed on account of delay due to shift of terminal point from the line from Mumbai (New Location to Boisar), due to non-availability of land, delay in forest approval and ROW issues in case of Asset-1 is as under:-

Particulars	Time period		Total Delay	Delay Condoned
	From	to		
Investment Approval Date	15.10.2008			
Delay due to shifting of terminal point of the line from Mumbai(New Location) to Boisar and non-availability of land	4.11.2008	8.7.2010	20 months 5 days	20 months 5 days
Delay due to forest approval	2.9.2011	15.3.2016	44 months 14 days excluding 10 months MOEF Guidelines times)	44 months 14 days
RoW issues	10.6.2015	26.11.2016	17 months 17 days	17 months 17 days
Total Delay and delay Condoned			81 months 36 days	81 months 36 days

40. Based on above, we are of the view that there is an overall delay of 81 months 36 days due to shifting of terminal point of the line from Mumbai (New Location) to Boisar, due to non-availability of land and delay in forest approval and ROW issues. In case of Asset-1, there is a time over-run of 50 months 17 days. The time over-run of 50 months 17 days on account of shifting of terminal point of the line from Mumbai (New Location) to Boisar, due to non-availability of land and delay in forest approval and ROW issues. We are of the view that time over-run is beyond the control of the petitioner and hence same is condoned.

### **Asset-2 and Asset-3**



41. The petitioner has submitted that reactors package at Seoni Sub-station alongwith other packages were planned to be funded from World Bank funding. Accordingly, the bidding documents for the subject packages were forwarded to the Bank in March, 2010 for its 'No Objection'. However, due to delay in funding, part scope of the aforesaid packages was deleted from World Bank funding and the revised bidding documents were forwarded to World Bank. In the process of funding, the Bidding documents were revised on several occasions and the World Bank conveyed its 'No Objection' to the Bidding Documents in February, 2012, after a period of 2 years.

42. From the submissions made by the petitioner, it is observed that after investment approval dated 15.10.2008, petitioner proposed a loan of USD 600 million from the World Bank through Ministry of Power. Various letters as mentioned above were exchanged for approval of fund. But the whole process of getting NOC to the bidding documents as per World Bank guidelines, delayed the COD of the reactors from November, 2008 to August, 2012 (around 45 months). The time over-run in case of Assets 2 and 3 was due to the delay in receipt of NOC for the bidding documents from World Bank. We are of the view that the time over-run of 18 months 18 days in case of Asset-2 and delay of 17 months 18 days in case of Asset-3 is beyond the control of the petitioner and hence the same is condoned.

#### **Asset-4, Asset-5A & Asset-5B**

43. The petitioner has submitted that the 400 kV D/C Navsari-Boisar portion is delayed mainly due to delay faced in finalizing land for Navi Mumbai (new location) such as ROW issues, non-availability of adequate corridor and lack of





proper approach/ connectivity specifically for transportation of heavy equipments and therefore, it was proposed to change the termination point from Navi Mumbai to Kudus and approval was granted in the 35<sup>th</sup> SCM held on 3.1.2013 i.e. 38 months after the investment approval dated 15.10.2008. The petitioner has further submitted that the reasons of delay of 400 kV D/C Vapi-Kudus from 44/0 to 45A/0 are same as the reasons of delay of 400 kV D/C Navsari-Boisar from 44/0 to 45 A/0 as they are both strung on same M/C towers. As regards, Asset-5A, the petitioner has submitted that 400 kV M/C transmission line from location from 313/0 upto 332/0 comprises of 400 kV D/C Navsari-Boisar from 313/0 upto 332/0 and 400 kV D/C Aurangabad-Boisar from 313/0 upto 332/0 and the 400 kV D/C Navsari-Boisar portion was complete on 18.12.2016. The Aurangabd-Boisar portion from 313/0 upto 332/0 was commissioned with complete Aurangabad-Boisar Line. As regards, Asset-5B, the petitioner has submitted that 400 kV M/C transmission line from 45A/0 upto 69/0 comprises of 400kV D/C Navsari-Boisar from 45A/0 upto 69/0 and the 400 kV D/C Navsari-Boisar portion was put into commercial operation on 31.12.2016. Therefore, the stringing was already completed on 31.12.2016 and the Vapi-Kudus portion was put into commercial operation with complete Vapi-Kudus line. The petitioner has also submitted that the 400 kV D/C Vapi-Kudus line beyond location 104/0 was not ready therefore, 400 kV D/C Vapi-Kudus line from 69/0 to 104/0 was put into commercial operation on 31.12.2017. We have considered the submissions of the petitioner. The delay in case of Asset-4, Asset-5A and Asset-5B is mainly due to delay in finalizing land for Navi Mumbai (new location) such as ROW issues, non-availability of adequate corridor and lack of proper approach/connectivity specifically for transportation of heavy equipments. We have already condoned



the delay based on this same issues in case of Asset-1. We are of the view of that the delay of 28 months 15 days in case of Asset-4, 62 months and 15 days in case of Asset-5A and 62 months 17 days in case of Asset-5B is beyond the control of the petitioner and hence the same is condoned.

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

44. The IDC claimed by the petitioner is as under:-

(₹ in lakh)	
Assets	Amount
Asset-1	1462.26
Asset-2	111.13
Asset-3	88.83
Asset-4	13.79
Asset-5A	369.34
Asset-5B	691.55

45. IDC up to the allowable date has been worked out based on the loans deployed for the assets as per Form-9C of the petition on cash basis assuming that the petitioner has not made any default in the payment of interest. Accordingly, the IDC has been worked out as under:-

(₹ in lakh)			
Assets	IDC claimed	IDC disallowed	IDC allowed on cash basis.
Asset-1	1462.26	0.00	1462.26
Asset-2	111.13	0.00	111.13
Asset-3	88.83	0.00	88.83
Asset-4	13.79	0.00	13.79
Asset-5A	369.34	0.00	369.34
Asset-5B	691.55	0.00	691.55

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

46. The petitioner has claimed ₹168.81 lakh as IEDC for Asset-5A as on COD, which is not within the percentage on hard cost as indicated in the abstract cost estimate and excess IEDC claimed by petitioner is disallowed.



47. Accordingly, the amount of IEDC claimed, disallowed and allowed is as under:-

(₹ in lakh)			
Asset	IEDC Claimed	IEDC Disallowed	IEDC Allowed
Asset-1	292.64	0.00	292.64
Asset-2	29.37	0.00	29.37
Asset-3	23.48	0.00	23.48
Asset-4	1.57	0.00	1.57
Asset-5A	168.81	73.41	95.40
Asset-5B	131.47	0.00	131.47

### **Treatment of Initial Spares**

48. 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.”

49. The petitioner has claimed the following initial spares in respect of the instant assets:-

(₹ in lakh)			
Asset	Particulars	Transmission line	Sub-station
1	Total cost*	15531.31	998.64
	Initial Spares included	154.00	52.68
2	Total cost*	0.00	2145.22
	Initial Spares included	0.00	0.00
3	Total cost*	0.00	2168.97
	Initial Spares included	0.00	91.67
4	Total cost*	116.16	0.00
	Initial Spares included	1.16	0.00
5A	Total cost*	1993.87	0.00
	Initial Spares included	19.00	0.00
5B	Total cost*	5208.25	0.00
	Initial Spares included	52.00	0.00

\*Total cost (Plant and machinery cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares).

50. The petitioner was directed to clarify the nature of initial spares (i.e. green field or brown field) for Asset-3. In response, petitioner vide affidavit dated 28.3.2018 has submitted that Seoni sub-station is a brown field sub-station. Therefore, the specified limit for initial spares in terms of Regulation 13 of the 2014 Tariff Regulations is 6% of the cost of plant and machinery.

51. The petitioner has submitted the details of initial spares discharged during various periods for Assets-1 to 4 and same is as under:-



(₹ in lakh)

<b>Discharge of Initial Spares for Asset-1</b>	<b>Amount (sub-station)</b>	<b>Amount (Transmission line)</b>
Upto COD and included in Auditor Certificate upto COD	0.00	0.00
Balance to be discharged (ACE – 2017-18)	52.68	154.00

(₹ in lakh)

<b>Discharge of Initial Spares for Asset 2 (sub-station)</b>	<b>Amount</b>
Upto COD and included in Auditor Certificate upto COD	0.00
Discharged during 2014-15 (ACE)	0.00
Discharged during 2015-16 (ACE)	0.00
Balance to be discharged (ACE – 2016-17)	0.00

(₹ in lakh)

<b>Discharge of Initial Spares for Asset 3 (sub-station)</b>	<b>Amount</b>
Upto COD and included in Auditor Certificate upto COD	25.79
Discharged during 2014-15 (ACE)	46.70
Discharged during 2015-16 (ACE)	19.18
Balance to be discharged (ACE – 2016-17)	0.00

(₹ in lakh)

<b>Discharge of Initial Spares for Asset 4 (Transmission line)</b>	<b>Amount</b>
Upto COD and included in Auditor Certificate upto COD	0.00
Balance to be discharged (ACE – 2017-18)	1.16

52. The petitioner has further submitted the break-up of initial spares for Asset-5A and Asset-5B as under:-

(₹ in lakh)

<b>Discharge of Initial Spares for Asset 5A (Transmission line)</b>	<b>Amount</b>
Upto COD and included in Auditor Certificate upto COD	17.1
Balance to be discharged (ACE – 2017-18)	1.9

(₹ in lakh)

<b>Discharge of Initial Spares for Asset 5B(Transmission line)</b>	<b>Amount</b>
Upto COD and included in Auditor Certificate upto COD	46.8
Balance to be discharged (ACE – 2017-18)	5.2

53. We have considered the submissions made by the petitioner. The petitioner has submitted the details for initial spares discharged as on COD and during various periods.

54. The petitioner has claimed initial spares in case of Asset-1 amounting to ₹154.00 lakh (0.99%) corresponding to transmission line of ₹15531.31 lakh and



₹52.68 lakh (5.27%) corresponding to sub-station of ₹998.64 lakh. The petitioner has claimed for transmission line an amount of ₹154.00 lakh for the period 2017-18 and further for sub-station has claimed initial spares for an amount of ₹52.68 lakh for the period 2017-18. Thus, the petitioner has claimed initial spares amounting to ₹154.00 lakh (0.99%) corresponding to Plant & Machinery cost for transmission line of ₹15531.31 lakh and ₹52.68 lakh (5.27%) corresponding to Plant & Machinery cost for substation of ₹998.64 lakh upto cut-off date i.e. 31.3.2019 is within the ceiling limit of 1% for transmission line and 6.00% for sub-station of the capital cost as specified in the 2014 Tariff Regulations. Accordingly, an amount of ₹154.00 lakh for period 2017-18 is allowed in case of transmission line and further in case of sub-station an amount of ₹52.68 lakh for the period 2017-18 is allowed in case of Asset-1.

55. In case of Asset-2, the petitioner has not claimed any initial spares corresponding to transmission line and sub-station, therefore no elaboration is required in this case. In case of Asset-3, the petitioner has not claimed any initial spares for transmission line. The petitioner has claimed an amount of ₹91.67 lakh (4.22%) corresponding to sub-station of ₹2168.97 lakh. The petitioner has claimed for sub-station initial spares of ₹25.79 lakh as on COD, ₹46.70 lakh for period 2014-15 and ₹19.18 lakh for the period 2015-16 totaling to ₹91.67 lakh. Thus, the petitioner has claimed initial spares amounting to ₹91.67 lakh (4.22%) corresponding to Plant & Machinery cost for sub-station of ₹2168.97 lakh upto cut-off date i.e. 31.3.2017 is within the ceiling limit of 6.00% for sub-station of the capital cost as specified in the 2014 Tariff Regulations. Accordingly, in case of Asset-3, an amount of ₹25.79 lakh as on COD is allowed, an amount of ₹46.70



lakh for the period 2014-15 is allowed and ₹19.18 lakh for the period 2015-16 is allowed.

56. In case of Asset-4, the petitioner has not claimed any initial spares for sub-station. The petitioner has claimed for transmission line initial spare of an amount of ₹1.16 lakh (0.99%) corresponding to Plant & Machinery cost for transmission line of ₹116.16 lakh. The petitioner has claimed for transmission line initial spares of ₹1.16 lakh for period 2017-18. Thus, the claim of the petitioner of initial spares amounting to ₹1.16 lakh (0.99%) corresponding to Plant & Machinery cost for transmission line of ₹116.16 lakh upto cut-off date i.e 31.3.2018 is within the ceiling limit of 1.00% for transmission line of the capital cost as specified in the 2014 Tariff Regulations. Accordingly, in case of Asset-4, an amount of ₹1.16 lakh for the period 2017-18 is allowed.

57. In case of Asset-5A, the petitioner has not claimed any initial spares for sub-station. The petitioner has claimed an amount of ₹19.00 lakh (0.95%) corresponding to transmission line of ₹1993.87 lakh. The petitioner for transmission line has claimed initial spares of ₹17.1 lakh as on COD and ₹1.9 lakh for the period 2017-18 totaling to ₹19.00 lakh. Thus, the petitioner has claimed initial spares amounting to ₹19.00 lakh (0.95%) corresponding to Plant & Machinery cost for transmission line of ₹1993.87 lakh upto cut-off date i.e 31.3.2020 is within the ceiling limit of 1.00% for transmission line of the capital cost as specified in the 2014 Tariff Regulations. Accordingly, in case of Asset-5A, an amount of ₹17.1 lakh as on COD and ₹1.9 lakh for the period 2017-18 is allowed.



58. In case of Asset-5B, the petitioner has not claimed any initial spares for sub-station. The petitioner has claimed an amount of ₹52.00 lakh (0.99%) corresponding to transmission line of ₹5208.25 lakh. The petitioner for transmission line has claimed initial spares of ₹46.80 lakh as on COD and ₹5.20 lakh for the period 2017-18 totaling to ₹52.00 lakh. Thus, the petitioner has claimed initial spares amounting to ₹52.00 lakh (0.99%) corresponding to Plant & Machinery cost for transmission line of ₹5208.25 lakh upto cut-off date i.e 31.3.2020 is within the ceiling limit of 1.00% for transmission line of the capital cost as specified in the 2014 Tariff Regulations. Accordingly, in case of Asset-5B, an amount of ₹46.80 lakh as on COD against ₹46.80 lakh and ₹5.20 lakh for the period 2017-18 against ₹5.20 lakh is allowed. The details of initial spares allowed upto the ceiling limit of 1% for transmission line and 6.00% for sub-station of the capital cost as specified in the 2014 Tariff Regulations, asset-wise are given as under:-

**Asset-1**

						(₹ in lakh)
Particulars	Total cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 3.2.2017 <b>(a)</b>	Initial spares claimed upto cut-off date <b>(b)</b>	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation <b>(c)</b>	Ceiling limit of initial spares <b>(d)=((a-b) *c) / (100-c)%</b>	Excess initial spares <b>(e)= (d)-(b)</b>	<b>Initial spares allowed =</b> Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulations
Transmission line	15531.31	154.00	1.00%	155.32	0.00	<b>154.00</b>
Sub-station	998.64	52.68	6.00%	60.38	0.00	<b>52.68</b>





**Asset-3****(₹ in lakh)**

Particulars	Total cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 3.2.2017 <b>(a)</b>	Initial spares claimed upto cut-off date <b>(b)</b>	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation <b>(c)</b>	Ceiling limit of initial spares <b>(d)=((a-b) *c) / (100-c)%</b>	Excess initial spares <b>(e)= (d)-(b)</b>	<b>Initial spares allowed =</b> Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulations
Sub-station	2168.97	91.67	6.00%	132.59	0.00	<b>91.67</b>

**Asset-4****(₹ in lakh)**

Particulars	Total cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 3.2.2017 <b>(a)</b>	Initial spares claimed upto cut-off date <b>(b)</b>	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation <b>€</b>	Ceiling limit of initial spares <b>(d)=((a-b) *c) / (100-c)%</b>	Excess initial spares <b>€= (d)-(b)</b>	<b>Initial spares allowed =</b> Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulations
Transmission Line	116.16	1.16	1.00%	1.16	0.00	<b>1.16</b>

**Asset-5A****(₹ in lakh)**

Particulars	Total cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 3.2.2017 <b>(a)</b>	Initial spares claimed upto cut-off date <b>(b)</b>	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation <b>€</b>	Ceiling limit of initial spares <b>(d)=((a-b) *c) / (100-c)%</b>	Excess initial spares <b>€= (d)-(b)</b>	<b>Initial spares allowed =</b> Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulations
Transmission Line	1993.87	19.00	1.00%	19.94	0.00	<b>19.00</b>



**Asset-5B**

(₹ in lakh)

Particulars	Total cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 3.2.2017 <b>(a)</b>	Initial spares claimed upto cut-off date <b>(b)</b>	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation <b>€</b>	Ceiling limit of initial spares <b>(d)=((a-b) *c) / (100-c)%</b>	Excess initial spares <b>€= (d)-(b)</b>	<b>Initial spares allowed =</b> Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulations
Transmission Line	5208.25	52.00	1.00%	52.08	0.00	<b>52.00</b>

**Capital cost as on COD and 31.3.2019**

59. Based on the above, the details of capital cost as on COD considered for computation of tariff is as under:-

(₹ in lakh)						
Assets	Upto COD	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	14736.04	0.00	0.00	917.86	2058.07	572.88
Asset-2	1562.01	1075.27	66.64	138.54	0.00	0.00
Asset-3	1263.05	785.16	53.58	919.78	0.00	0.00
Asset-4	130.37	0.00	0.00	1.15	0.00	0.00
Asset-5A	2446.15	0.00	0.00	0.00	20.94	64.94
Asset-5B	5254.63	0.00	0.00	0.00	680.24	96.39
<b>Total</b>	<b>25392.25</b>	<b>1860.43</b>	<b>120.22</b>	<b>1977.33</b>	<b>2759.25</b>	<b>734.21</b>

**Additional Capital Expenditure (ACE)**

60. 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.”

61. 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”.

62. The cut-off date for Assets-1, 2, 3, 4, 5A and 5B is 31.3.2019, 31.3.2017, 31.3.2017, 31.3.2018, 31.3.2020 and 31.3.2020 respectively.

63. The petitioner has claimed that ACE incurred/ projected to be incurred is mainly on account of balance/ retention payments and claimed under Regulation 14(1)(i) of the 2014 Tariff Regulations and submitted the break-up of ACE for the period 2014-19 as under:-

**Asset-1**

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2016-17	Transmission line	790.28	Balance & Retention payments	14(1)(i)
2016-17	Sub-station	205.86	Balance & Retention payments	14(1)(i)
2016-17	PLCC	1.39	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>997.53</b>		
2017-18	Transmission line	2201.52	Balance & Retention payments	14(1)(i)
2017-18	Sub-station	92.31	Balance & Retention	14(1)(i)



			payments	
2017-18	PLCC	0.43	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>2294.26</b>		

### Asset-2

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2014-15	Building	209.37	Balance & Retention payments	14(1)(i)
2014-15	Sub-station	880.59	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>1089.96</b>		
2015-16	Building	24.58	Balance & Retention payments	14(1)(i)
2015-16	Sub-station	42.06	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>66.64</b>		
2016-17	Sub-station	138.54	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>138.54</b>		

### Asset-3

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2014-15	Building	157.47	Balance & Retention payments	14(1)(i)
2014-15	Sub-station	637.03	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>794.50</b>		
2015-16	Building	18.50	Balance & Retention payments	14(1)(i)
2015-16	Sub-station	35.08	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>53.58</b>		
2016-17	Sub station	919.78	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>919.78</b>		



**Asset-4**

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2014-15	Transmission line	5.25	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>5.25</b>		
2015-16	Transmission line	1.25	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>1.25</b>		
2016-17	Transmission line	1.15	Balance & Retention payments	14(1)(i)
<b>Total</b>		<b>1.15</b>		

**Asset-5A:**

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2017-18	Transmission line	20.94	Balance & Retention payments	14(1)(i)
2017-18	Transmission line	135.12	Balance & Retention payments+Accrual IDC discharged in 2018-19	14(1)(i)
<b>Total</b>		<b>156.06</b>		

**Asset-5B**

(₹ In lakh)

Year	Work/Equipment proposed to be added after COD upto cutoff date/ beyond cutoff date	Amount capitalised and proposed to be capitalised	Justification as per purpose	Regulation under which covered
1	2	3	4	5
2017-18	Transmission line	680.24	Balance & Retention payments	14(1)(i)
2018-19	Transmission line	194.71	Balance & Retention payments+Accrual IDC discharged in 2018-19	14(1)(i)
<b>Total</b>		<b>874.95</b>		



64. MPPMCL vide affidavit dated 27.11.2017, has submitted that the petitioner has not provided any details along with proper justification and reasoning in Form-7 and in absence of details such payments may not be allowed by the Commission.

65. In response, petitioner has submitted that the ACE for the assets has been claimed under Regulation 14(1)(i) of the 2014 Tariff Regulations against balance and retention payments as mentioned in Form-7 of respective assets and further, the element wise break-up of cost of all the assets under instant petition have already been furnished in Form-5 of respective assets in the petition. Accordingly, requested to allow the entire cost and tariff as claimed in the petition.

66. We have considered the submissions submitted by the petitioner and respondents. The petitioner has claimed such additional capital expenditure for Asset-1, Asset-2, Asset-3, Asset-4, Asset-5A and Asset-5B mainly on account of balance/retention payment under Regulation 14(1)(i) of the 2014 Tariff Regulations Accordingly, the petitioner's claim of additional capital expenditure has been allowed subjected to adjustment of IDC and IEDC on cash basis subject to truing-up based on the actual ACE incurred.

67. Based on the above, the ACE allowed and the summary of capital cost considered for tariff from COD to 31.3.2019 is as under:-

(₹ in lakh)						
Assets	Capital cost as on COD	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-1	14420.18	-	-	997.53	2294.26	572.88
Asset-2	1547.32	1089.96	66.64	138.54	0.00	0.00
Asset-3	1253.71	794.50	53.58	919.78	0.00	0.00



Asset-4	123.87	5.25	1.25	1.15	0.00	0.00
Asset-5A	2302.55	-	-	-	20.94	135.12
Asset-5B	5156.31	-	-	-	680.24	194.71

### **Debt- Equity Ratio**

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

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

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

**Explanation-** The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as 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.”

69. The petitioner has claimed debt-equity ratio of 70:30 as on the date of commercial operation of the instant assets. The details of debt- equity in respect of the assets covered in the instant petition as on COD and as on 31.3.2019 are as under:-



(₹ in lakh)

Assets	Gross Loan 70% as on COD	Equity 30% as on COD	Capital Cost as on COD	Gross Loan 70% as on 31.3.2019	Equity 30% as on 31.3.2019	Capital Cost as on 31.3.2019
Asset-1	10094.13	4326.05	14420.18	12799.40	5485.45	18284.85
Asset-2	1083.12	464.20	1547.32	1989.72	852.74	2842.46
Asset-3	877.60	376.11	1253.71	2115.10	906.47	3021.57
Asset-4	86.71	37.16	123.87	92.06	39.46	131.52
Asset-5A	1611.79	690.76	2302.55	1721.03	737.58	2458.61
Asset-5B	3609.42	1546.89	5156.31	4221.88	1809.38	6031.26

70. Additional Capital Expenditure has been considered in the debt: equity ratio of 70:30, which is in line with 2014 Tariff Regulations and the same is considered for calculation of tariff.

### **Return on Equity (RoE)**

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

“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 nongeneration 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.”

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

73. We have considered the submissions made by the petitioner. Regulation 24



read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, RoE has been computed @19.610 % per annum on average equity. The MAT rate for the year 2013-14 is considered for computing RoE which is subject to truing-up. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)			
<b>Asset-1</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	4326.05	4625.31	5313.59
Addition due to Additional Capitalisation	299.26	688.28	171.86
Closing Equity	4625.31	5313.59	5485.45
Average Equity	4475.68	4969.45	5399.52
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>218.82</b>	<b>974.51</b>	<b>1058.85</b>

(₹ in lakh)					
<b>Asset-2</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	464.20	791.18	811.18	852.74	852.74
Addition due to Additional Capitalisation	326.99	19.99	41.56	0.00	0.00
Closing Equity	791.18	811.18	852.74	852.74	852.74
Average Equity	627.69	801.18	831.96	852.74	852.74
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>112.64</b>	<b>157.11</b>	<b>163.15</b>	<b>167.22</b>	<b>167.22</b>

(₹ in lakh)					
<b>Asset-3</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	376.11	614.46	630.54	906.47	906.47
Addition due to Additional Capitalisation	238.35	16.07	275.93	0.00	0.00
Closing Equity	614.46	630.54	906.47	906.47	906.47
Average Equity	495.29	622.50	768.50	906.47	906.47



Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>97.13</b>	<b>122.07</b>	<b>150.70</b>	<b>177.76</b>	<b>177.76</b>

(₹ in lakh)

<b>Asset-4</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	37.16	38.74	39.11	39.46	39.46
Addition due to Additional Capitalisation	1.58	0.38	0.35	0.00	0.00
Closing Equity	38.74	39.11	39.46	39.46	39.46
Average Equity	37.95	38.92	39.28	39.46	39.46
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>0.63</b>	<b>7.63</b>	<b>7.70</b>	<b>7.74</b>	<b>7.74</b>

(₹ in lakh)

<b>Asset-5A</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Equity	690.76	697.05
Addition due to Additional Capitalisation	6.28	40.54
Closing Equity	697.05	737.58
Average Equity	693.91	717.31
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>34.67</b>	<b>140.67</b>

(₹ in lakh)

<b>Asset-5B</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Equity	1546.89	1750.96
Addition due to Additional Capitalisation	204.07	58.41
Closing Equity	1750.96	1809.38
Average Equity	1648.93	1780.17
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>80.62</b>	<b>349.09</b>

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

74. 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.”

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

- (i) Gross amount of loan, repayment of installments and rate of interest have been considered as per Form 9C given in the petition.
- (ii) The Normative repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period.
- (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.

76. Based on above, details of IOL calculated are as follows:-



(₹ in lakh)			
<b>Asset-1</b>	<b>2016-17 (pro-rata)</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	10094.13	10792.40	12398.38
Cumulative Repayment upto Previous Year	0.00	196.46	1071.08
Net Loan-Opening	10094.13	10595.94	11327.30
Addition due to Additional Capitalisation	698.27	1605.98	401.02
Repayment during the year	196.46	874.62	950.32
Net Loan-Closing	10595.94	11327.30	10778.00
Average Loan	10345.04	10961.62	11052.65
Weighted Average Rate of Interest on Loan	8.32%	8.31%	8.29%
<b>Interest</b>	<b>214.59</b>	<b>910.90</b>	<b>916.26</b>

(₹ in lakh)					
<b>Asset-2</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	1083.12	1846.10	1892.74	1989.72	1989.72
Cumulative Repayment upto Previous Year	0.00	98.34	234.06	374.97	519.53
Net Loan-Opening	1083.12	1747.76	1658.68	1614.75	1470.19
Addition due to Additional Capitalisation	762.97	46.65	96.98	0.00	0.00
Repayment during the year	98.34	135.73	140.91	144.56	144.56
Net Loan-Closing	1747.76	1658.68	1614.75	1470.19	1325.63
Average Loan	1415.44	1703.22	1636.72	1542.47	1397.91
Weighted Average Rate of Interest on Loan	5.35%	6.04%	6.14%	6.19%	6.23%
<b>Interest</b>	<b>69.29</b>	<b>102.87</b>	<b>100.49</b>	<b>95.47</b>	<b>87.09</b>

(₹ in lakh)					
<b>Asset-3</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	877.60	1433.75	1471.25	2115.10	2115.10
Cumulative Repayment upto Previous Year	0.00	84.84	190.37	321.41	476.74
Net Loan-Opening	877.60	1348.90	1280.88	1793.69	1638.36
Addition due to Additional Capitalisation	556.15	37.51	643.85	0.00	0.00
Repayment during the year	84.84	105.53	131.04	155.33	155.33
Net Loan-Closing	1348.90	1280.88	1793.69	1638.36	1483.03
Average Loan	1113.25	1314.89	1537.28	1716.02	1560.70
Weighted Average Rate of Interest on Loan	5.33%	5.99%	6.10%	6.14%	6.19%
<b>Interest</b>	<b>59.32</b>	<b>78.76</b>	<b>93.72</b>	<b>105.37</b>	<b>96.54</b>

(₹ in lakh)					
<b>Asset-4</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	86.71	90.38	91.26	92.06	92.06
Cumulative Repayment upto Previous Year	0.00	0.57	7.42	14.33	21.28
Net Loan-Opening	86.71	89.82	83.84	77.73	70.79



Addition due to Additional Capitalisation	3.68	0.88	0.81	0.00	0.00
Repayment during the year	0.57	6.85	6.91	6.94	6.94
Net Loan-Closing	89.82	83.84	77.73	70.79	63.84
Average Loan	88.26	86.83	80.79	74.26	67.32
Weighted Average Rate of Interest on Loan	8.74%	8.72%	8.72%	8.72%	8.73%
<b>Interest</b>	<b>0.66</b>	<b>7.57</b>	<b>7.05</b>	<b>6.47</b>	<b>5.87</b>

(₹ in lakh)

<b>Asset-5A</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Gross Normative Loan	1611.79	1611.79
Cumulative Repayment upto Previous Year	0.00	31.12
Net Loan-Opening	1611.79	1580.67
Addition due to Additional Capitalisation	14.66	94.58
Repayment during the year	31.12	126.25
Net Loan-Closing	1595.33	1549.00
Average Loan	1603.56	1564.84
Weighted Average Rate of Interest on Loan	8.19%	8.15%
<b>Interest</b>	<b>33.45</b>	<b>127.53</b>

(₹ in lakh)

<b>Asset-5B</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Gross Normative Loan	3609.42	4085.59
Cumulative Repayment upto Previous Year	0.00	72.35
Net Loan-Opening	3609.42	4013.23
Addition due to Additional Capitalisation	476.17	136.30
Repayment during the year	72.35	313.31
Net Loan-Closing	4013.23	3836.22
Average Loan	3811.33	3924.73
Weighted Average Rate of Interest on Loan	8.38%	8.37%
<b>Interest</b>	<b>79.62</b>	<b>328.50</b>

## Depreciation

77. Regulation 27 of the 2014 Tariff Regulations provides as under:-

### "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.”



78. The COD of the assets fall in financial year 2014-15. Thus, the depreciation has been annually based on Straight Line Method and at the rates specified in Appendix-III to the 2014 Tariff Regulations.

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

Asset-1	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	14420.18	15417.71	17711.97
Additional Capital expenditure	997.53	2294.26	572.88
Closing Gross Block	15417.71	17711.97	18284.85
Average Gross Block	14918.95	16564.84	17998.41
Rate of Depreciation	5.28%	5.28%	5.28%
Depreciable Value	13427.05	14908.36	16198.57
Remaining Depreciable Value	13427.05	13230.59	12355.97
<b>Depreciation</b>	<b>196.46</b>	<b>874.62</b>	<b>950.32</b>

Asset-2	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1547.32	2637.28	2703.92	2842.46	2842.46
Additional Capital expenditure	1089.96	66.64	138.54	0.00	0.00
Closing Gross Block	2637.28	2703.92	2842.46	2842.46	2842.46
Average Gross Block	2092.30	2670.60	2773.19	2842.46	2842.46
Rate of Depreciation	5.14%	5.08%	5.08%	5.09%	5.09%
Depreciable Value	1883.07	2403.54	2495.87	2558.21	2558.21
Remaining Depreciable Value	1883.07	1784.73	1649.01	1508.10	1363.54
<b>Depreciation</b>	<b>98.34</b>	<b>135.73</b>	<b>140.91</b>	<b>144.56</b>	<b>144.56</b>

Asset-3	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1253.71	2048.21	2101.79	3021.57	3021.57
Additional Capital expenditure	794.50	53.58	919.78	0.00	0.00
Closing Gross Block	2048.21	2101.79	3021.57	3021.57	3021.57
Average Gross Block	1650.96	2075.00	2561.68	3021.57	3021.57
Rate of Depreciation	5.14%	5.09%	5.12%	5.14%	5.14%
Depreciable Value	1485.86	1867.50	2305.51	2719.41	2719.41
Remaining Depreciable Value	1485.86	1401.02	1295.49	1164.45	1009.13
<b>Depreciation</b>	<b>84.84</b>	<b>105.53</b>	<b>131.04</b>	<b>155.33</b>	<b>155.33</b>

Asset-4	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	123.87	129.12	130.37	131.52	131.52
Additional Capital expenditure	5.25	1.25	1.15	0.00	0.00
Closing Gross Block	129.12	130.37	131.52	131.52	131.52
Average Gross Block	126.50	129.75	130.95	131.52	131.52





Rate of Depreciation	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	113.85	116.77	117.85	118.37	118.37
Remaining Depreciable Value	113.85	113.28	106.43	99.51	92.57
<b>Depreciation</b>	<b>0.57</b>	<b>6.85</b>	<b>6.91</b>	<b>6.94</b>	<b>6.94</b>

(₹ in lakh)

<b>Asset-5A</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Gross Block	2302.55	2323.49
Additional Capital expenditure	20.94	135.12
Closing Gross Block	2323.49	2458.61
Average Gross Block	2313.02	2391.05
Rate of Depreciation	5.28%	5.28%
Depreciable Value	2081.72	2151.95
Remaining Depreciable Value	2081.72	2050.60
<b>Depreciation</b>	<b>31.12</b>	<b>126.25</b>

(₹ in lakh)

<b>Asset-5B</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Opening Gross Block	5156.31	5836.55
Additional Capital expenditure	680.24	194.71
Closing Gross Block	5836.55	6031.26
Average Gross Block	5496.43	5933.91
Rate of Depreciation	5.28%	5.28%
Depreciable Value	4946.79	5340.51
Remaining Depreciable Value	4946.79	4874.43
<b>Depreciation</b>	<b>72.35</b>	<b>313.31</b>

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

80. Regulation 29(4) (a) of the 2014 tariff regulations specifies the norms for O&M expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant asset are as under:-

<b>Norms for sub-stations (in ₹ lakh per bay)</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
400kV	60.30	62.30	64.37	66.51	68.71
765kV	84.42	87.22	90.12	93.11	96.20
<b>Norms for AC lines (in ₹ lakh per km)</b>					
Double circuit (Twin & Triple conductor)	0.707	0.731	0.755	0.780	0.806
Double Circuit (Bundled conductor with four or more sub- conductors)	1.062	1.097	1.133	1.171	1.210

81. The petitioner has claimed following O&M Expenses in the instant petition:-

(₹ in lakh)

<b>Assets</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Asset-1	0.00	0.00	40.20	164.36	169.81
Asset-2	77.16	87.22	90.12	93.11	96.20
Asset-3	84.42	87.22	90.12	93.11	96.20
Asset-4	0.13	1.67	1.72	1.78	1.84
Asset-5A	0.00	0.00	0.00	5.19	20.77
Asset-5B	0.00	0.00	0.00	10.88	44.47

82. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

83. MPPMCL has submitted that there is no order for wage revision has been passed for 2017 by Ministry of Heavy industries & Public Enterprises, therefore the said demand for the wage revision is premature and not justified. The Commission has no control over the wage hike allowed by the petitioner to its employees and hence no blanket approval may be accorded for enhancement in O&M Expenses at a later stage and therefore the petitioner request for wage revision may be rejected as petitioner being CPSE body has to bear the additional financial implication on account of pay revision from their own resources.

84. In response, petitioner in its rejoinder has submitted that wage revision of the employees of the petitioner company is due during the tariff period 2014-19 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 period 2014-19. Further, it is submitted that the scheme of wage revision applicable to CPSUs being binding on the petitioner, the petitioner reserves the right to approach the Commission for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike during 2014-19 onwards. Accordingly, the petitioner has prayed to approach the Commission for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike, if any, during 2104-19 and hence the same may be considered.

85. We have considered the submissions submitted by both petitioner and respondent. We are of the view that the O&M Expenses have been worked out as per the O&M Expenses norms specified in the 2014 Tariff Regulations. As regards the 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.

86. The details of the elements included in the instant assets and the total allowable O&M Expenses asset-wise for the instant assets are as follows:-

Asset-1	(₹ in lakh)		
	2016-17 (pro-rata)*	2017-18	2018-19
Line length (km)	14.011	14.011	14.011
Double circuit (Twin & Triple Conductor)	0.755	0.780	0.806
Calculated O&M Expenses	2.63	10.92	11.29
<b>Total O&amp;M Expenses(1)</b>	<b>2.63</b>	<b>10.92</b>	<b>11.29</b>
Line length (km)	9.008	9.008	9.008



Multi circuit (Twin & Triple Conductor)	0.755	0.780	0.806
Calculated O&M Expenses	1.69	7.02	7.26
<b>Total O&amp;M Expenses (2)</b>	<b>1.69</b>	<b>7.02</b>	<b>7.26</b>
Line length (km)	17.164	17.164	17.164
Multi circuit (Twin & Triple Conductor)	0.755	0.780	0.806
Calculated O&M Expenses	3.23	13.38	13.83
<b>Total O&amp;M Expenses (3)</b>	<b>3.23</b>	<b>13.38</b>	<b>13.83</b>
Boisar -Sub-station (400kV)	64.37	66.51	68.71
No. of Bays	2	2	2
Calculated O&M Expenses	32.09	133.02	137.42
<b>Total O&amp;M Expenses (4)</b>	<b>32.09</b>	<b>133.02</b>	<b>137.42</b>
<b>Total O&amp;M Expenses allowed for Asset-1=(1+2+3+4)</b>	<b>39.64</b>	<b>164.34</b>	<b>169.80</b>

\*Pro-rata=31.12.2016 to 31.3.2017= 91 days

(₹ in lakh)					
Asset-2	2014-15 (pro-rata)*	2015-16	2016-17	2017-18	2018-19
Sub-station	84.42	87.22	90.12	93.11	96.20
No. of Bays	1	1	1	1	1
Calculated O&M Expenses	77.25	87.22	90.12	93.11	96.20
<b>Total O&amp;M Expenses</b>	<b>77.25</b>	<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>
<b>Total O&amp;M Expenses allowed for Asset-2</b>	<b>77.25</b>	<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>

\*Pro-rata=02.05.2014 to 31.3.2015= 334 days

(₹ in lakh)					
Asset-3	2014-15 (pro-rata)*	2015-16	2016-17	2017-18	2018-19
Sub-station	84.42	87.22	90.12	93.11	96.20
No. of Bays	1	1	1	1	1
Calculated O&M Expenses	84.42	87.22	90.12	93.11	96.20
<b>Total O&amp;M Expenses</b>	<b>84.42</b>	<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>
<b>Total O&amp;M Expenses allowed for Asset-3</b>	<b>84.42</b>	<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>

\*Pro-rata=1.4.2014 to 31.3.2015= 365 days

(₹ in lakh)					
Asset-4	2014-15 (pro-rata)*	2015-16	2016-17	2017-18	2018-19
Line length (km)	2.28	2.28	2.28	2.28	2.28
Double circuit (Twin & Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Calculated O&M Expenses	0.13	1.66	1.72	1.77	1.83
<b>Total O&amp;M Expenses</b>	<b>0.13</b>	<b>1.66</b>	<b>1.72</b>	<b>1.77</b>	<b>1.83</b>



<b>Total O&amp;M Expenses allowed for Asset-4</b>	<b>0.13</b>	<b>1.66</b>	<b>1.72</b>	<b>1.77</b>	<b>1.83</b>
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\*Pro-rata=1.3.2015 to 31.3.2015= 31 days

(₹ in lakh)		
<b>Asset-5A</b>	<b>2017-18 (pro-rata)*</b>	<b>2018-19</b>
Line length (km)	17.164	17.164
Double circuit (Bundled conductor with four or more sub-conductors)	1.171	1.210
Calculated O&M Expenses	5.12	20.76
<b>Total O&amp;M Expenses</b>	<b>5.12</b>	<b>20.76</b>
<b>Total O&amp;M Expenses allowed for Asset-5A</b>	<b>5.12</b>	<b>20.76</b>

\*Pro-rata= 29.12.2017 to 31.3.2018= 93 days

(₹ in lakh)		
<b>Asset-5B</b>	<b>2017-18 (pro-rata)*</b>	<b>2018-19</b>
Line length (km)	55.178	55.178
Double circuit (Twin & Triple Conductor)	0.780	0.806
Calculated O&M Expenses	10.73	44.47
<b>Total O&amp;M Expenses</b>	<b>10.73</b>	<b>44.47</b>
<b>Total O&amp;M Expenses allowed for asset-5B</b>	<b>10.73</b>	<b>44.47</b>

\*Pro-rata= 31.12.2017 to 31.3.2018= 91 days

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

87. 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;”

88. The petitioner is entitled to claim IWC 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 of annual 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**

O&M 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**

The petitioner has considered 12.80% and 13.50% as rate of interest for calculation of working capital. As per Proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate 9.30% as on 1.4.2017 plus 350 Bps shall be considered as the rate of interest on working capital. We have considered SBI Base rate as on 1.4.2014 as 10% plus 350 Bps i.e.



13.50% and as on 1.4.2017 as 9.30% plus 350 Bps i.e. 12.80% as rate of interest for calculating interest on working capital.

89. Based on the above, the IWC as determined is shown as below:-

(₹ in lakh)

Asset-1	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	5.95	24.65	25.47
O & M expenses	3.30	13.70	14.15
Receivables	114.22	498.86	527.98
Total	123.47	537.20	567.60
<b>Interest on Working Capital</b>	<b>15.80</b>	<b>68.76</b>	<b>72.65</b>

(₹ in lakh)

Asset-2	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	11.57	13.08	13.52	13.97	14.43
O & M expenses	6.43	7.27	7.51	7.76	8.02
Receivables	61.36	82.81	84.83	85.81	84.93
Total	79.36	103.16	105.85	107.54	107.38
<b>Interest on Working Capital</b>	<b>10.71</b>	<b>13.93</b>	<b>14.29</b>	<b>14.52</b>	<b>14.50</b>

(₹ in lakh)

Asset-3	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M expenses	7.04	7.27	7.51	7.76	8.02
Receivables	55.99	67.57	79.87	91.13	90.17
Total	75.69	87.93	100.90	112.86	112.62
<b>Interest on Working Capital</b>	<b>10.22</b>	<b>11.87</b>	<b>13.62</b>	<b>15.24</b>	<b>15.20</b>

(₹ in lakh)

Asset-4	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.02	0.25	0.26	0.27	0.27
O & M expenses	0.01	0.14	0.14	0.15	0.15
Receivables	0.34	4.05	4.00	3.92	3.83
Total	0.37	4.44	4.40	4.33	4.25
<b>Interest on Working Capital</b>	<b>0.05</b>	<b>0.60</b>	<b>0.59</b>	<b>0.58</b>	<b>0.57</b>

(₹ in lakh)

Asset-5A	2017-18 (pro-rata)	2018-19
Maintenance Spares	0.77	3.11
O & M expenses	0.43	1.73
Receivables	17.80	70.82
Total	18.99	75.66
<b>Interest on Working Capital</b>	<b>2.43</b>	<b>9.68</b>



(₹ in lakh)

Asset-5B	2017-18 (pro-rata)	2018-19
Maintenance Spares	1.61	6.67
O & M expenses	0.89	3.71
Receivables	41.49	176.55
Total	44.00	186.93
<b>Interest on Working Capital</b>	<b>5.63</b>	<b>23.93</b>

### Annual Transmission charges

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

(₹ in lakh)

Asset-1	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	196.46	874.62	950.32
Interest on Loan	214.59	910.90	916.26
Return on Equity	218.82	974.51	1058.85
Interest on Working Capital	15.80	68.76	72.65
O&M Expenses	39.64	164.34	169.80
<b>Total</b>	<b>685.31</b>	<b>2993.13</b>	<b>3167.88</b>

(₹ in lakh)

Asset-2	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	98.34	135.73	140.91	144.56	144.56
Interest on Loan	69.29	102.87	100.49	95.47	87.09
Return on Equity	112.64	157.11	163.15	167.22	167.22
Interest on Working Capital	10.71	13.93	14.29	14.52	14.50
O&M Expenses	77.16	87.22	90.12	93.11	96.20
<b>Total</b>	<b>368.14</b>	<b>496.86</b>	<b>508.96</b>	<b>514.88</b>	<b>509.57</b>

(₹ in lakh)

Asset-3	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	84.84	105.53	131.04	155.33	155.33
Interest on Loan	59.32	78.76	93.72	105.37	96.54
Return on Equity	97.13	122.07	150.70	177.76	177.76
Interest on Working Capital	10.22	11.87	13.62	15.24	15.20
O&M Expenses	84.42	87.22	90.12	93.11	96.20
<b>Total</b>	<b>335.93</b>	<b>405.44</b>	<b>479.20</b>	<b>546.80</b>	<b>541.03</b>

(₹ in lakh)

Asset-4	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	0.57	6.85	6.91	6.94	6.94
Interest on Loan	0.66	7.57	7.05	6.47	5.87
Return on Equity	0.63	7.63	7.70	7.74	7.74
Interest on Working Capital	0.05	0.60	0.59	0.58	0.57





O&M Expenses	0.13	1.66	1.72	1.77	1.83
<b>Total</b>	<b>2.03</b>	<b>24.32</b>	<b>23.98</b>	<b>23.50</b>	<b>22.96</b>

(₹ in lakh)

<b>Asset-5A</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Depreciation	31.12	126.25
Interest on Loan	33.45	127.53
Return on Equity	34.67	140.67
Interest on Working Capital	2.43	9.68
O&M Expenses	5.12	20.76
<b>Total</b>	<b>106.79</b>	<b>424.89</b>

(₹ in lakh)

<b>Asset-5B</b>	<b>2017-18 (pro-rata)</b>	<b>2018-19</b>
Depreciation	72.35	313.31
Interest on Loan	79.62	328.50
Return on Equity	80.62	349.09
Interest on Working Capital	5.63	23.93
O&M Expenses	10.73	44.47
<b>Total</b>	<b>248.95</b>	<b>1059.30</b>

### **Filing Fee and Publication Expenses**

91. 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. 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**

92. 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.

### **Service Tax**

93. The petitioner has sought to recover Service Tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submission of the petitioner. Service tax is not levied on transmission. Further, service tax is subsumed by GST and hence petitioner's prayer is infructuous.

### **Goods and Services Tax**

94. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submission of the petitioner. Service tax was not levied on transmission service. Further, service tax is subsumed by GST and hence petitioner's prayer is infructuous.

### **Sharing of Transmission Charges**

95. The 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 and Losses) Regulations, 2010 as amended from time to time.

96. This order disposes of Petition No. 207/TT/2017.

sd/-	sd/-	sd/-	sd/-
<b>(Dr. M. K. Iyer)</b> Member	<b>(A. S. Bakshi)</b> Member	<b>(A. K. Singhal)</b> Member	<b>(P. K. Pujari)</b> Chairperson

