

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**PETITION NO. 110/TT/2014**

**Coram:**

**Shri A.S. Bakshi, Member  
Dr. M. K. Iyer, Member**

**Date of Hearing: 14.03.2016**

**Date of Order : 29.04.2016**

**In the matter of:**

Determination of transmission tariff for 2x315, 400/220 kV GIS Sub-station at Kala in UT of D&NH & LILO of one circuit of 400 kV D/C Vapi-Navi Mumbai Transmission Line at Kala Sub-station (multi-circuit tower) (Interim Contingency Arrangement), under Transmission System for establishment of 400/220 kV GIS Sub-station at Kala in UT of D&NH in Western Region for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the Matter of:**

Power Grid Corporation of India Ltd,  
SAUDAMINI, Plot No. 2,  
Sector-29, Gurgaon-122001 (Haryana)

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur  
Jabalpur – 482008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4th Floor  
Andheri (East), Mumbai - 400 052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadodara - 390 007
4. Electricity Department Govt. Of Goa  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa - 403 001

5. Electricity Department  
Administration of Daman & Diu  
Daman - 396 210
6. Electricity Department  
Administration Of Dadra Nagar Haveli  
U.T., Silvassa - 396 230
7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgarh-492013
8. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore- 452 008

....Respondents

The following were present:

For Petitioner:       Shri Piyush Awasthi, PGCIL  
                              Shri Mohd. Mohsin, PGCIL  
                              Shri Pankaj Sharma, PGCIL  
                              Shri S.S. Raju, PGCIL  
                              Shri Rakesh Prasad, PGCIL  
                              Shri Jasbir Singh, PGCIL  
                              Shri Aryaman Saxena, PGCIL  
                              Shri M.M. Mondal, PGCIL

For Respondents:   None

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited (“the petitioner”) for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD to 31.3.2019 in respect of 2x315, 400/220 kV GIS Sub-station at Kala in UT of D&NH & LILO of one circuit of 400 kV D/C Vapi-Navi Mumbai Transmission Line at Kala Sub-station (multi-circuit tower)(Interim Contingency Arrangement), under Transmission System

for establishment of 400/220 kV GIS Sub-station at Kala in UT of D & N H in Western Region (hereinafter referred to as "the transmission assets")

2. The scheme has been discussed and agreed in the 32<sup>nd</sup> Standing Committee Meeting (SCM) of Western Region Constituents held on 13.5.2011 and finalized in the 17<sup>th</sup> WRPC meeting held on 20.5.2011, as part of provision of 400/220 kV GIS Sub-station at Union Territory of Dadar & Nagar Havelli (DNH) and Daman & Diu. The scope of work covered under the Transmission System for establishment of 400/220 kV GIS Sub-station at Kala in UT of D&NH in Western Region is as follows:-

**Transmission Line:**

- i) LILO of 400 kV D/C Vapi-Navi Mumbai Transmission at Kala Sub-station (multi-circuit tower)-9km.

**Substations:**

- i) Establishment of 2x315 MVA, 400/220 kV GIS Sub-station at Kala in UT of D & N H .

3. The brief facts of the case are as follows:-

- a) The Investment Approval (IA) and expenditure sanction to the transmission project was accorded by Board of Directors of the petitioner company, vide Memorandum No. C/CP/Kala-GIS dated 13.7.2011 with an estimated cost of ₹18193 lakh including IDC of ₹590 lakh based on First Quarter of 2011 price level. The Board of Directors of the petitioner company have accorded approval for Revised Cost Estimates (RCE) of the transmission asset vide Memorandum No. C/CP/RCE-Kala dated 21.5.2015 with an

estimated cost of ₹20071 lakh including IDC of ₹518 lakh based on December 2014 price level.

b) The petitioner has sought approval of COD for 2x315, 400/220 kV GIS sub-station at Kala in UT of D&nH & LILO of one circuit of 400 kV D/C Vapi-Navi Mumbai Transmission Line at Kala Sub-station (multi-circuit tower) (Interim Contingency Arrangement) in accordance with Regulation 4 (3) (ii) of the Tariff Regulations 2014.

c) The petitioner has submitted that due to non-readiness of downstream system viz. 400 kV D/C Vapi - Navi Mumbai transmission line (WRSS-V), the petitioner is not able to provide services for the reasons not attributable to itself, its suppliers, or contractors, but on account of the delay in commissioning of downstream system by Electricity Department of D & N H . The petitioner has submitted that the case qualifies for consideration of the Commission for approval of date of commercial operation prior to the element of coming into regular service.

4. The Annual Transmission Charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 19.6.2014.

5. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments/objections have been received from the public in response to the notice in newspaper. No reply has been filed by the respondents. The hearing in this matter was held on 14.3.2016.

6. Having heard the representatives of the petitioner and respondents, and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

7. The transmission charges claimed by the petitioner based on the actual date of commercial operation are as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	751.07	834.81	856.33	856.33	856.33
Interest on Loan	261.30	269.95	251.86	223.82	197.20
Return on Equity	861.25	959.88	986.38	986.38	986.38
Interest on Working Capital	77.67	83.21	85.08	85.66	86.31
O & M Expenses	625.22	645.97	667.43	689.51	712.45
<b>Total</b>	<b>2576.51</b>	<b>2793.82</b>	<b>2847.08</b>	<b>2841.70</b>	<b>2838.67</b>

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

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	52.08	53.81	55.60	57.44	59.35
Maintenance Spares	93.78	96.89	100.12	103.43	106.87
Receivables	429.42	465.64	474.52	473.62	473.11
Total working capital	<b>575.28</b>	<b>616.34</b>	<b>630.23</b>	<b>634.48</b>	<b>639.33</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	77.66	83.21	85.08	85.65	86.31

#### **Date of Commercial Operation (COD)**

9. The petitioner has claimed the date of the commercial operation of transmission asset as 1.4.2014. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

**“4. Date of Commercial Operation:** The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

xxx

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.

xxx

xxx”

10. The petitioner has sought approval of COD in accordance with Regulation 4 (3) (ii) of the Tariff Regulations 2014. The petitioner has submitted that due to non-readiness of downstream system viz. 400 kV D/C Vapi - Navi Mumbai transmission line (WRSS-V), the petitioner is not able to provide services for the reasons not attributable to itself, its suppliers, or contractors, but on account of the delay in commissioning of downstream system by Electricity Department of D&NH . The petitioner has submitted that the case qualifies for consideration of the Commission for approval of date of commercial operation prior to the element of coming into regular service.

11. The Commission has considered the averments made by the petitioner. It is observed that the 400 kV D/C Vapi – Navi Mumbai Transmission Line has since been commissioned w.e.f. 1.4.2014 with time over-run of 42 months from the scheduled date of commercial operation. The time over-run of 42 months has been condoned by the Commission vide its order dated 22.3.2016 in Petition No.

412/TT/2014. The issue of time over-run is addressed in detail in the concerned para in the present order.

12. The petitioner, vide affidavit dated 26.4.2016, has further submitted the reasons to justify delay in commissioning of 3<sup>rd</sup> and 4<sup>th</sup> circuits of LILO of Kala Sub-station. The petitioner has submitted that the loop in and loop out at 400/220 kV Kala sub-station was laid on multi-circuit tower and commissioned on 31.3.2014 by connecting one circuit to 400/220 kV Navsari Sub-station and other circuit to 400/220 kV Vapi Sub-station through some portion of 400 kV Navsari-Boisar line (under Mundra UMPP TS) and 400 kV D/C Vapi-Kudus (under WRSS V). The commissioning of balance two circuits to be LILOed at Kala were delayed due to delay in completion of balance portion of Vapi-Kudus 400 kV D/C line and Navsari-Boisar 400 kV D/C line, which occurred due to damage of conductors, owing to fire at the stores of Jyoti Structures Ltd (JSL), the erection agency of Vapi- Kudus Line and there by resulting in delay in stringing activities. The petitioner has further submitted that the 8 kms of D/C section could not be completed as on 31.3.2014 due to ROW issues in the tribal areas of the State of Maharashtra. In respect of the delay in commissioning of the downstream system of D&NH (200 kV D/C Kala - Khadoli line and 220 kV D/C Kala - Karadpada line), the petitioner has submitted that 220 kV Kala- Khadoli line is having ROW issues due to resistance of local villagers of Village Amboli & Khadoli. There were cases filed by the local residents in High Court resulting in further delays. Further, the estimated cost of the project has increased substantially due to heavy compensations and increase in line length. The approval for RCE took considerable time, which resulted in cash-flow limitation during execution of the projects. The work for 220 kV Kala-Kharadpada Transmission Line was delayed due to delay in finalization of route in various stretches due to severe ROW.

13. We have considered the submission and documents placed on record. It is evident that the issues faced by the petitioner in commissioning of remaining circuits in respect of LILO of Kala Sub-station are beyond the control of the petitioner. The petitioner has supported the justifications by submitting documentary evidences in the form of written communication to the Collector, the Superintendent of Police, Palghar district and the agency responsible for erection of Vapi-Kudud line. We are of the view that the petitioner has acted diligently; however, the commissioning of the subject assets has been prevented due to the reason not attributable to the petitioner. Accordingly, we hold that the petitioner is entitled for approval of COD as 1.4.2014 without commissioning of downstream system under Regulation 4 (3) (ii) of the Tariff Regulations 2014.

14. Further, in response to query, the petitioner has submitted that the commissioning of 1 no. of 80 MVAR Bus Reactor, as included in form-2 of the tariff forms of instant transmission asset, has been approved under the scope of works defined for the instant project. The petitioner has submitted the Abstract Cost Estimate as per the Investment Approval to depict the same. In absence of the commissioning of downstream system, it would be difficult to certify the trial operation as per Regulation. Hence, we direct the petitioner to submit the RLDC certificate in support of trial run operation as and when downstream system is commissioned at the time of true up.

### **Capital Cost**

15. Regulation 9 (1) and (2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-



**“9. Capital Cost:** (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.”

**“10. Prudence Check of Capital Expenditure:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time:

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

16. The details of apportioned approved cost, actual expenditure incurred as on date of commercial operation and the estimated additional capital expenditure projected to be incurred for the period from COD to 31.3.2016, as per the Auditor Certificate dated 27.7.2014 estimated completed cost for the transmission asset is summarized below:-

(₹ in lakh)

Asset	Cost as per RCE dated 21.5.2015	Capital cost on COD	Estimated additional capital expenditure			Total estimated completion cost
			2014-15	2015-16	Total	
Asset	20071	13413.42	2452.41	900.72	3353.13	16766.55

17. The admissible capital cost of the transmission asset as on COD is worked out in the subsequent paragraphs taking into consideration the initial spares and IEDC and IDC allowed.

### **Cost over-run**

18. As per the original Investment approval, the cost of the project was ₹18193 lakh which has been revised to ₹20071 lakh vide the Revised Cost Estimates dated 21.5.2015. The estimated completion cost is within the apportioned approved cost as observed from the RCE. Hence, there is no cost over-run.

### **Time Over-run**

19. As per the IA, the transmission asset was scheduled to be commissioned within 24 months of the investment approval i.e. by 13.7.2013, against which the transmission asset has been commissioned on 1.4.2014, after a time over-run of 8 months.

20. The petitioner has submitted that the 400/220 kV KALA-GIS sub-station along with LILO line is ready for commissioning since June, 2013. However, the associated 400 kV D/C Vapi - Navi Mumbai transmission line (WRSS-V) is delayed on account of severe ROW issues and forest clearance. Hence Vapi-Navi Mumbai line is being commissioned in phased manner. The petitioner has further submitted that initially,

under interim contingency arrangement, part of 400 kV D/C Vapi-Navi Mumbai Transmission Line (from Vapi Gantry up to AP 18 along with bay extension at VAPI SUB-STATION) and its interconnection with Navsari-Boisar Transmission Line (being constructed under MUNDRA UMPP) was commissioned w.e.f. 1.4.2013, in line with the approval accorded in the 34th SCM held on 9.5.2012 and is covered in Petition No. 60/TT/2013. Subsequently, the ROW issues and forest clearance in portion from AP-18/0 to AP-45A/0 were resolved and the line was made ready up to AP-45A/0.

21. The petitioner has submitted that as per in-principle approval of CEA conveyed vide letter dated 11.4.2014, LILO portion of Vapi-Navi Mumbai at Kala has been used to interconnect Kala Sub-station on one side with Navsari Sub-station (of Navsari-Boisar line) and on other side with Vapi Sub-station (of Vapi-Navi Mumbai T/L), so as to make it Vapi-Kala and Kala-Navsari 400 kV Transmission Lines.

22. Thus, due to non-readiness of downstream system viz. 400 kV D/C Vapi-Navi Mumbai transmission line (WRSS-V), the petitioner is not able to provide services for the reasons not attributable to itself, its suppliers, or contractors, but on account of the delay in commissioning of downstream system by Electricity Department of D&NH .

23. Having perused the submissions made by the petitioner to justifying the time over-run in respect of instant asset, the Commission has observed that the 400 kV D/C Vapi-Navi Mumbai Transmission Line has since been commissioned w.e.f. 1.4.2014 with time over-run of 42 months from the scheduled date of commercial operation. The time over-run of 42 months has been condoned by the Commission

vide its order dated 22.3.2016 in Petition No. 412/TT/2014. The relevant clause of the order in Petition No. 412/TT/2014 is as below:-

“18. We have considered the submission of the petitioner and documents placed in support of the time over-run. The time taken for resolving the RoW issues was beyond the control of the petitioner and hence it is not attributable to the petitioner. Therefore, the time over-run of 42 months in respect of the instant has been condoned.”

24. In view of the aforesaid order of the Commission, the time over-run to the tune of 8 months is being condoned and IDC and IEDC for the period is capitalised.

### **Initial Spares**

25. The petitioner has claimed initial spares of ₹46.99 lakh and ₹619.30 lakh pertaining to transmission line and sub-station corresponding to the capital cost of ₹5006.10 lakh and ₹12655.08 lakh in respective elements (excluding IDC, IEDC, Land cost and cost of civil works) up to the cut-off date of 31.3.2017.

26. The initial spares allowed based on the norms specified in regulation 13 of the 2014 Tariff Regulations, is given below:-

Particulars	(₹ in lakh)	
	Transmission Line	Sub-station
Capital Cost excluding IDC & IEDC	4699.18	10156.01
<b>Additional capital expenditure</b>		
2014-15	191.69	1957.24
2015-16	115.23	541.83
<b>Total capital cost up to cut-off date</b>	<b>5006.10</b>	<b>12655.08</b>
Initial spares claimed	46.99	619.30
Ceiling as per norms	1.00%	6.00%
Allowable initial spares	50.09	768.24
<b>Excess initial spares</b>	<b>0.00</b>	<b>0.00</b>

27. Thus, the initial spares claimed by the petitioner is within the normative limits specified in regulation 13 of the 2014 Tariff Regulations. Thus, the same is allowed for computation of tariff.

28. Based on the above, capital cost considered as on COD, after capitalization of IDC, IEDC and initial spares, for the purpose of the determination of transmission tariff is given below:-

(₹ in lakh)

Particulars	Capital cost on COD:1.4.2014
Land - Freehold	365.63
Land - Leasehold	0.00
Building Civil Works & Colony	40.81
Transmission Line	4710.40
Sub Station	8229.11
PLCC	67.47
<b>Total</b>	<b>13413.42</b>

### **Additional Capital Expenditure**

29. 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 recognized 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;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
- (v) Change in law or compliance of any existing law.”

30. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines cut-off date as follows:-

“Cut-off Date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation:

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer ”

Accordingly the cut-off date for the instant asset is 31.3.2017.

31. The petitioner has claimed an estimated additional capital expenditure of ₹2452.41 lakh and ₹900.72 lakh during 2014-15 and 2015-16 tariff period, on account of balance and retention payments.

32. The additional capital expenditure claimed by the petitioner is on account of balance and retention payments. It is within the cut-off date and the total estimated completion cost is within the apportioned approved cost. The same is allowed under Regulation 14(1) of 2014 Tariff Regulations, subject to true up on actual basis. Thus the additional capital expenditure allowed for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	Cost as per RCE dated 21.5.2015	Capital cost approved on COD:1.4.2014	Additional capital expenditure approved			Estimated capital cost as on 31.3.2019
			2014-15	2015-16	Total	
Asset	20071	13413.42	2452.41	900.72	3353.13	16766.55

### **Debt: Equity**

33. Clause (1) of Regulation 19 of the 2014 Tariff Regulations provides as under:-

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

Provided that:

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

- 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.”

34. The petitioner has considered the debt: equity ratio of 70:30, which is in line with the 2014 Tariff Regulations, hence the same is considered for calculation of tariff. Accordingly, the details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

Funding	As on COD	(%)	Additional capital expenditure during 2014-19	(%)	As on 31.3.2019	(%)
Debt	9389.39	70.00	2347.19	70.00	11736.59	70.00
Equity	4024.03	30.00	1005.94	30.00	5029.97	30.00
<b>Total</b>	<b>13413.42</b>	<b>100.00</b>	<b>3353.13</b>	<b>100.00</b>	<b>16766.55</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

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

**“24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.  
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system....”

**“25. Tax on Return on Equity:**

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

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

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

36. The petitioner has claimed ROE at the rate of 20.961% after grossing up the ROE of 15.5% with MAT rate as per the above said 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.

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

38. 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, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)

<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	4024.03	4759.75	5029.97	5029.97	5029.97
Additions	735.72	270.22	0.00	0.00	0.00
Closing Equity	4759.75	5029.97	5029.97	5029.97	5029.97



<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Average Equity	4391.89	4894.86	5029.97	5029.97	5029.97
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	861.27	959.90	986.40	986.40	986.40

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

39. Clause 5 and 6 of Regulation 26 of 2014 Tariff Regulations provides that:-

"(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."

40. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it 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. The petitioner has also prayed that they will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner's prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at Annexure-I and the IOL has been worked out as follows:-

(₹ in lakh)

Interest on Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	9389.39	11106.08	11736.59	11736.59	11736.59
Cumulative Repayment upto Previous Year	0.00	751.08	1585.90	2442.22	3298.55
Net Loan-Opening	9389.39	10355.01	10150.69	9294.36	8438.04
Additions	1716.69	630.50	0.00	0.00	0.00
Repayment during the year	751.08	834.82	856.33	856.33	856.33
Net Loan-Closing	10355.01	10150.69	9294.36	8438.04	7581.71
Average Loan	9872.20	10252.85	9722.53	8866.20	8009.87
Weighted Average Rate of Interest on Loan (%)	2.6468	2.6329	2.5905	2.5244	2.4619
Interest on Loan	261.30	269.95	251.86	223.82	197.19

## Depreciation

41. Clause (2), (5) and (6) of Regulation 27 of 2014 Tariff Regulations provide that:-

"27. Depreciation:

...(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

...

(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."

42. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

"(67) '**Useful life**' in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years

- (d) Hydro generating station including pumped Storage hydro generating stations 35 years  
(e) Transmission line (including HVAC & HVDC) 35 years  
(f) Communication system 15 years”

43. The depreciation has been worked out considering the admitted capital cost as on COD and the additional capital expenditure admitted during 2014-19 period. The weighted average useful life of the asset has been considered as 29 years in accordance with the above regulation. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)

Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	13413.42	15865.83	16766.55	16766.55	16766.55
Additional Capitalization	2452.41	900.72	0.00	0.00	0.00
Closing Gross Block	15865.83	16766.55	16766.55	16766.55	16766.55
Average Gross Block	14639.63	16316.19	16766.55	16766.55	16766.55
Rate of Depreciation (%)	5.13%	5.12%	5.11%	5.11%	5.11%
Balance Useful life	29	28	27	26	25
Elapsed life	0	1	2	3	4
Remaining Depreciable Value	12846.60	13604.43	13174.93	12318.61	11462.28
Depreciation during the year	751.08	834.82	856.33	856.33	856.33
Cumulative depreciation	751.08	1585.90	2442.22	3298.55	4154.88

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

44. The instant petition covers a total of 6 nos. 200 kV bays, 7 nos. GIS bays at 400 kV level and multi circuit (twin sub-conductor) line of length 9.014 km. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Norm (₹ lakh/bay)</b>					
220 kV	42.21	43.61	45.06	46.55	48.10
400 kV GIS	51.54	53.25	55.02	56.84	58.73
<b>Norm (₹ lakh/KM)</b>					
Multi-ckt. (twin/triple)	1.24	1.282	1.324	1.368	1.413

45. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

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

47. The petitioner has claimed O&M Expenses as specified in sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)

Asset	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
220 kV bay (6 Nos.)	253.26	261.66	270.36	279.30	288.60
400 kV GIS bay (7 Nos.)	360.78	372.75	385.14	397.88	411.11
Multi-ckt. (twin/triple)- 9.014 km	11.18	11.56	11.93	12.33	12.74
<b>Total</b>	<b>625.22</b>	<b>645.97</b>	<b>667.43</b>	<b>689.51</b>	<b>712.45</b>

### **Interest on Working Capital**

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

**“28. Interest on Working Capital**

- (c).(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”

“(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;”

49. The petitioner has considered the rate of interest on working capital to be 13.50%.

50. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	52.08	53.81	55.60	57.44	59.35
Maintenance Spares	93.78	96.89	100.12	103.43	106.87
Receivables	429.42	465.64	474.52	473.62	473.11
Total	575.28	616.34	630.23	634.48	639.33
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	77.66	83.21	85.08	85.65	86.31

**ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD**

51. The transmission charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	13413.42	15865.83	16766.55	16766.55	16766.55
Additional Capitalisation	2452.41	900.72	0.00	0.00	0.00
Closing Gross Block	15865.83	16766.55	16766.55	16766.55	16766.55
Average Gross Block	14639.63	16316.19	16766.55	16766.55	16766.55
Rate of Depreciation	5.13	5.12	5.11	5.11	5.11
Depreciable Value	12846.60	14355.50	14760.83	14760.83	14760.83

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Balance Useful life of the asset	29	28	27	26	25
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	12846.60	13604.43	13174.93	12318.61	11462.28
Depreciation	751.08	834.82	856.33	856.33	856.33
Cumulative depreciation	751.08	1585.90	2442.22	3298.55	4154.88
<b>Interest on Loan</b>					
Gross Normative Loan	9389.39	11106.08	11736.59	11736.59	11736.59
Cumulative Repayment upto Previous Year	0.00	751.08	1585.90	2442.22	3298.55
Net Loan-Opening	9389.39	10355.01	10150.69	9294.36	8438.04
Additions	1716.69	630.50	0.00	0.00	0.00
Repayment during the year	751.08	834.82	856.33	856.33	856.33
Net Loan-Closing	10355.01	10150.69	9294.36	8438.04	7581.71
Average Loan	9872.20	10252.85	9722.53	8866.20	8009.87
Weighted Average Rate of Interest on Loan	2.6468	2.6329	2.5905	2.5244	2.4619
Interest	261.30	269.95	251.86	223.82	197.19
<b>Return on Equity</b>					
Opening Equity	4024.03	4759.75	5029.97	5029.97	5029.97
Additions	735.72	270.22	0.00	0.00	0.00
Closing Equity	4759.75	5029.97	5029.97	5029.97	5029.97
Average Equity	4391.89	4894.86	5029.97	5029.97	5029.97
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610	19.610
Return on Equity	861.27	959.90	986.40	986.40	986.40
<b>Interest on Working Capital</b>					
O & M expenses	52.08	53.81	55.60	57.44	59.35
Maintenance Spares	93.78	96.89	100.12	103.43	106.87
Receivables	429.42	465.64	474.52	473.62	473.11
Total	575.28	616.34	630.23	634.48	639.33
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	77.66	83.21	85.08	85.65	86.31
<b>Annual Transmission Charges</b>					
Depreciation	751.08	834.82	856.33	856.33	856.33
Interest on Loan	261.30	269.95	251.86	223.82	197.19
Return on Equity	861.27	959.90	986.40	986.40	986.40
Interest on Working Capital	77.66	83.21	85.08	85.65	86.31
O & M Expenses	625.22	645.97	667.43	689.51	712.45
<b>Total</b>	<b>2576.53</b>	<b>2793.85</b>	<b>2847.11</b>	<b>2841.71</b>	<b>2838.67</b>

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

52. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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 Regulation 52 (1) of the 2014 Tariff Regulations.

### **Licence Fee & RLDC Fees and Charges**

53. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19 tariff period. The petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.

### **Service Tax**

54. The petitioner has prayed for reimbursement of service tax if it is subjected to such tax in future. We are of the view that the petitioner's prayer is premature.

### **Foreign Exchange Rate Variation**

55. The petitioner has sought recovery of FERV on foreign loans deployed under clause 50 of 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers / DICs, as the case may be, in accordance with Regulation 51(1) of the 2014 Tariff Regulations.

### **Sharing of Transmission Charges**

56. The transmission charges for the instant assets shall be borne by the Electricity Department, D&NH till the commissioning of the downstream system. Once the

downstream system is commissioned, the billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time as provided in Regulation 43 of the 2014 Tariff Regulations.

57. This order disposes of Petition No. 110/TT/2014.

Sd/-  
**(Dr. M.K. Iyer)**  
**Member**

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



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND-XXXIV-Loan 1-	8.84	252.00	0.00	252.00
SBI (21.03.2012)-Loan 2-	10.25	763.00	0.00	763.00
ADB VI-Loan 3-60.61	1.7755	8374.39	0.00	8374.39
<b>Total</b>		<b>9389.39</b>	<b>0.00</b>	<b>9389.39</b>

**WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD**

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	9389.39	9389.39	9389.39	9389.39	9389.39
Cumulative Repayments of Loans upto Previous Year	0.00	21.00	42.00	132.36	365.09
<b>Net Loans Opening</b>	<b>9389.39</b>	<b>9368.39</b>	<b>9347.39</b>	<b>9257.03</b>	<b>9024.30</b>
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	21.00	21.00	90.36	232.73	246.96
<b>Net Closing Loan</b>	<b>9368.39</b>	<b>9347.39</b>	<b>9257.03</b>	<b>9024.30</b>	<b>8777.34</b>
Average Net Loan	9378.89	9357.89	9302.21	9140.67	8900.82
Rate of Interest on Loan (%)	2.6468%	2.6329%	2.5905%	2.5244%	2.4619%
<b>Interest on Loan</b>	<b>248.24</b>	<b>246.39</b>	<b>240.98</b>	<b>230.75</b>	<b>219.13</b>