

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 499/TT/2014

Coram:

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

**Date of Hearing : 02.12.2015
Date of Order : 07.01.2016**

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for (a) Combined elements of Talcher and Kolar (HVDC portion) (Notional COD: 1.3.2003, and (b) Combined elements of Talcher and Kolar (AC portion) (Notional COD: 1.6.2003) under Transmission System associated with Talcher-II project in Southern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

Power Grid Corporation of India Ltd.
Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016

.....Petitioner

Versus

1. Karnataka Power Transmission Corporation Ltd.
Kaveri Bhavan, Bangalore-560 009
2. Transmission Corporation of Andhra Pradesh Ltd.
(APTRANSCO), Vidyut Soudha, Hyderabad- 500082
3. Kerala State Electricity Board
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram- 695 004



4. Tami Nadu Generation and Distribution Corporation Ltd.
NPKRR Maaligai, 800, Anna Salai
Chennai- 600 002
5. Electricity Department
Govt. Of Pondicherry, Pondicherry- 605 001
6. Eastern Power Distribution Company of
Andhra Pradesh Limited (APEPDCL),
Seethmmadhara, Vishakhapatnam
7. Southern Power Distribution Company of
Andhra Pradesh Limited (APSPDCL),
Tirupati- 517 501
8. Central Power Distribution Company of
Andhra Pradesh Limited (APCPDCL),
Corporate Office, Hyderabad- 500 063
9. Northern Power Distribution Company of
Andhra Pradesh Limited (APNPDCL),
Opp. NIT Petrol Pump
10. Bangalore Electricity Supply Company Limited
Corporate Office, K.R Circle,
Bangalore- 560 001, Karnataka
11. Gulbarga Electricity Supply Company Limited (GESCOM)
Station Road, Gulbarga, Karnataka
12. Hubli Electricity Supply Company Limited (HESCOM)
Navanagar, PB Road, Hubli, Karnataka
13. MESCOM Corporate Office
Paradigm Plaza, AB Shetty Circle,
Mangalore- 575 001
14. Chamundeswari Electricity Supply Corporation Limited (CESC)
#927, L J Avenue, Ground Floor,
Saraswatipuram, Mysore- 570 009
15. Electricity Department
Government of Goa, Vidyuti Bhawan, Panaji,
Goa- 403001

....Respondents

The following were present:



For Petitioner: Shri Jasbir Singh, PGCIL
Shri Anshul Garg, PGCIL
Shri Angaru Naresh Kumar, PGCIL
Shri S.S.Raju, PGCIL
Shri S.K.Niranjan, PGCIL
Shri M.M.Mondal, PGCIL
Shri S.K.Venkatesan, PGCIL
Shri Shashi Bhushan, PGCIL
Shri J.Mazumder, PGCIL
Shri R.Prasad, PGCIL
Shri Sunil Kumar, PGCIL

For Respondent: Shri S.Vallinayagam, TANGEDCO
Shri R.Jaya Prakash, TANGEDCO

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ('the petitioner'), a transmission licensee, for truing up of capital expenditure and tariff for (a) Combined elements of Talcher and Kolar (HVDC portion) (Notional COD: 1.3.2003), and (b) Combined elements of Talcher and Kolar (AC portion) (Notional COD: 1.6.2003) under Transmission System associated with Talcher-II project in Southern Region under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations") based on actual expenditure for the period 1.4.2009 to 31.3.2014, and 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 1.4.2014 to 31.3.2019.



2. The respondents are distribution licensees or power procurement companies of the State, who are procuring transmission service from the petitioner, mainly beneficiaries of Southern Region.

3. The petitioner has served the petition to 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 have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 02.12.2015. Respondent No.4 i.e., Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO), sought one week's time to file reply to the petition which was allowed by the Commission to file their reply by 10.12.2015 and directed the petitioner to submit the rejoinder to the reply filed by Respondent No.4 on affidavit with copy to the respondents by 16.12.2015 with the directive that in case no information is filed within the due date, the matter shall be considered based on the available records. Reply has been filed by Respondent No. 4, vide affidavit dated 18.12.2015 and subsequently the petitioner has filed rejoinder vide affidavit dated 1.1.2016. The concerns expressed by the respondents have been addressed in the respective paras of this order. The petitioner was directed to submit the additional information through letter dated 27.11.2015. The petitioner has submitted the additional information. Having heard the representatives of the petitioner and the respondents and perused the material on record; we proceed to dispose of the petition.



4. The brief facts of the case are as follows:
- a) The investment approval for construction of the transmission system was accorded by the Ministry of Power, Government of India, vide letter dated 9.2.2000 at an estimated cost of ₹ 386561.00 lakh (2nd quarter price level), including IDC of ₹ 39107.00 lakh.
- b) The transmission assets covered under the instant petition were progressively commissioned during 1.12.2002 to 1.6.2003. These assets have been clubbed by the petitioner as per the procedure prescribed by the Commission for the tariff determination in tariff order dated 29.9.2011 in 188/TT/2011 into (a) Combined elements of Talcher and Kolar (HVDC portion) (Notional COD: 1.3.2003)-**Combined Assets-I**, and (b) Combined elements of Talcher and Kolar (AC portion) (Notional COD: 1.6.2003)-**Combined Assets-II**. Details of Combined Assets-I and Combined Assets-II with COD are shown below:

| Sr. No. | Name of the Assets | COD | Notional COD |
|---------------------------|---|-----------|--------------|
| Combined Assets-I | | | |
| 1 | 500 kV HVDC line along with HVDC terminal stations (Pole-I) at Talcher and Kolar | 1.12.2002 | 1.3.2003 |
| 2 | HVDC terminal station at Talcher and Kolar with Pole- II | 1.3.2003 | |
| Combined Assets-II | | | |
| 3 | 400 kV Hosur-Salem S/C line and 1x315 MVA Auto Transformer-I at Hosur along with the associated bay at Hosur and bay extension at Salem | 1.12.2002 | 1.6.2003 |
| 4 | 1x315 MVA Auto transformer-II at Hosur along with associated 400 kV bays and complete 220kv bays/yard at Hosur | 1.2.2003 | |



| Sr. No. | Name of the Assets | COD | Notional COD |
|---------|--|-----------|--------------|
| 5 | 400 kV AC Kolar-Arakkonam-Madras line along with bays at Kolar and Sriperumbudur (Madras) and LILO of 400 kV Cuddapah-Banglore S/C line along with associated bays at Kolar | 1.12.2002 | |
| 6 | 400 kV Kolar-Hoody D/C line along with associated bays extensions (Kolar-I and Kolar-II) at Hoody substation, Hoody-I and Hoody-II bays at Kolar substation and 4x167 MVA Auto transformer along with associated bays on 400 & 220 kV side and complete 220 kV substation at Kolar | 1.2.2003 | |
| 7 | 400 KV D/C Kolar-Hosur line along with associated bays at Kolar and Hosur | 1.4.2003 | |
| 8 | 400 KV S/C Salem-Udumalpet line along with associated bay extensions at Salem and Udumalpet | 1.6.2003 | |

- c) The Commission, vide its order dated 29.9.2011, allowed provisional tariff in respect of Combined Assets-I and Combined Assets-II for the tariff period 2009-14, subject to adjustment as per proviso to Clause (3) of Regulation 5 of the 2009 Tariff Regulations.
- d) The Commission, in its order dated 12.3.2013 in Petition No. 188/2011, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹261006.13 lakh and ₹39779.11 lakh as on 31.3.2009 for Combined Assets-I and Combined Assets-II respectively. The net de-capitalization of ₹136.84 lakh was considered during 2009-14 in accordance with the 2009 Tariff Regulations. The tariff allowed for the tariff period 2009-14 is as under:



(₹ in lakh)

| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Combined Assets- I | | | | | |
| Depreciation | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| Interest on Loan | 8075.56 | 7143.58 | 6244.61 | 5413.78 | 4597.09 |
| Return on Equity | 8793.58 | 8789.99 | 8789.99 | 8789.99 | 8789.99 |
| Interest on working capital | 789.17 | 778.25 | 768.67 | 761.03 | 754.14 |
| O&M expenses | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |
| Total | 34423.81 | 33646.66 | 32921.24 | 32276.20 | 31655.22 |
| Combined Assets- II | | | | | |
| Depreciation | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| Interest on Loan | 1808.59 | 1602.98 | 1396.78 | 1189.53 | 985.42 |
| Return on Equity | 1460.88 | 1460.88 | 1460.88 | 1460.88 | 1460.88 |
| Interest on working capital | 189.48 | 189.67 | 190.12 | 190.8 | 191.83 |
| O&M expenses | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |
| Total | 7089.17 | 6973.16 | 6862.30 | 6755.79 | 6658.35 |

- e) The MAT rate applicable during 2008-09 was considered to arrive at the rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.
- f) The instant petition was filed on 26.11.2014 for true up of tariff for 2009-14 tariff period based on actual capital expenditure incurred and for determination of transmission tariff for the tariff period 2014-19.

TRUING UP OF ANNUAL FIXED CHARGES FOR TARIFF PERIOD 2009-14

5. The truing up of tariff for the tariff period 2009-14 has been determined as discussed below:-



Capital Cost

6. The petitioner has claimed admitted capital cost of ₹261006.13 lakh for Combined Assets-I and ₹39779.11 lakh for Combined Assets-II as on 31.3.2009 for the purpose of tariff. In addition to this, the petitioner has claimed additional capitalisation for Combined Asset-I of ₹12.25 lakh and de-capitalisation of ₹149.09 lakh for Combined Asset-I during 2009-14 tariff period on account of balance and retention payments and Excise Duty refund as deemed export benefits.

7. Last proviso to Clause (2) of Regulation 7 of the 2009 Tariff Regulations provides that:

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.

8. The capital cost admitted for Combined Assets-I and Combined Assets-II as on 31.3.2009 have been considered as the opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost considered as on 1.4.2009 for Combined Assets-I is ₹261006.13 lakh and for Combined Assets-II is ₹39779.11 lakh, to work out the trued up tariff for the tariff period 2009-14.



Additional Capital Expenditure

9. The petitioner has claimed additional capitalisation of ₹12.25 lakh and de-capitalisation of ₹149.09 lakh for Combined Asset-I, on account of balance and retention payments and de-capitalisation on account of excise duty refund as deemed export benefits during 2009-10 against the additional capitalisation of ₹12.25 lakh and de-capitalisation of ₹149.06 lakh approved vide order dated 12.3.2013 in Petition No. 188/TT/2011, under Clause (2)(v) of Regulation 9 of the 2009 Tariff Regulations. The petitioner was directed to confirm that all the balance/retention payments under this petition have been claimed or some payments are still to be claimed in future. In response, the petitioner confirmed that all the balance/retention payments under this petition have been paid and no further balance/retention payments are to be claimed.

10. The petitioner has not claimed any additional capitalisation during the tariff period 2009-14 for Combined Assets-II. No additional capital expenditure has been considered for the tariff period 2009-14.

11. Clause 2(v) of Regulation 9 of the 2009 Tariff Regulations provides as follows:-

“(2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

...

(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and



any other expenditure which has become necessary for successful and efficient operation of transmission system:

...

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009.”

12. The total capital cost of the transmission asset including additional capitalisation/de-capitalisation incurred during the tariff period 2009-14 which is within the overall estimated cost of ₹386561 lakh given in the investment approval. The total capital cost is within the overall estimated cost, additional capitalisation is on account of balance and retention payments and based on actual capital expenditure incurred, and excise duty refund as deemed export benefits which has already been approved by the Commission in its order dated 12.3.2013 in Petition No. 188/TT/2011. The net actual additional capital expenditure of (-)₹136.84 lakh as certified by the Auditor has been considered to work out the trued up tariff for 2009-14 tariff period in accordance with Clause 2(v) of Regulation 9 of the 2009 Tariff Regulations. The summary of capital cost including additional capitalization is shown in the table below:-

(₹ in lakh)

| Cost as per Investment Approval:- ₹386561 lakh | | | | | |
|---|--------------|-----------------------------|-------------------------------------|--------|----------------------|
| Asset Name | Notional COD | Admitted Cost on 31.03.2009 | Admitted Add-cap/De-cap for 2009-14 | | Cost as on 31-3-2014 |
| | | | Add-cap | De-Cap | |
| Combined Assets I | 1.3.2003 | 2,61,006.13 | 12.25 | 149.09 | 2,60,869.29 |
| Combined Assets II | 1.6.2003 | 39,779.11 | 0.00 | 0.00 | 39,779.11 |



| Cost as per Investment Approval:- ₹386561 lakh | | | | | |
|--|--------------|-----------------------------|-------------------------------------|---------------|----------------------|
| Asset Name | Notional COD | Admitted Cost on 31.03.2009 | Admitted Add-cap/De-cap for 2009-14 | | Cost as on 31-3-2014 |
| Total | | 3,00,785.24 | 12.25 | 149.09 | 3,00,648.40 |

Debt: Equity

13. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides that:

“In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt:equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.”

14. The petitioner has claimed trued up Annual Fixed Charge based on debt:equity ratio as on 31.3.2009 for Combined Assets-I and Combined Assets-II as 80.72:19.28 and 78.99:21.01, respectively, as considered by the Commission in its order dated 12.3.2013 in Petition No. 188/TT/2011. The transmission assets covered in the instant petition were commissioned prior to 1.4.2009. The admitted debt:equity ratio for Combined Assets-I and Combined Assets-II are 80.72:19.28 and 78.99:21.01, respectively, as on 31.3.2009, which have been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff for the tariff period 2009-14, as given under:-

| Funding | Admitted as on 31.3.2009 | |
|--------------------------|--------------------------|--------|
| | Amount (₹ in lakh) | (%) |
| Combined Assets-I | | |
| Debt | 210681.94 | 80.72 |
| Equity | 50324.19 | 19.28 |
| Total | 261006.13 | 100.00 |



| Funding | Admitted as on 31.3.2009 | |
|---------------------------|--------------------------|--------|
| Combined Assets-II | | |
| Debt | 31422.14 | 78.99 |
| Equity | 8356.97 | 21.01 |
| Total | 39779.11 | 100.00 |

15. The debt:equity ratio of 70:30 has been considered for the purpose of additional capital expenditure claimed for 2009-10. Debt:equity ratio is allowed in accordance with Clause 2 of Regulation 12 of the 2009 Tariff Regulations. The overall debt:equity admitted as on 31.03.2014 including additional capitalization for Combined Assets-I and Combined Assets-II are as under:-

| Funding | Admitted as on 31.3.2014 | |
|---------------------------|--------------------------|--------|
| | Amount (₹ in lakh) | (%) |
| Combined Assets-I | | |
| Debt | 210586.15 | 80.72 |
| Equity | 50283.14 | 19.28 |
| Total | 260869.29 | 100.00 |
| Combined Assets-II | | |
| Debt | 31422.14 | 78.99 |
| Equity | 8356.97 | 21.01 |
| Total | 39779.11 | 100.00 |

Interest on Loan ("IOL')

16. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. The Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has held that:-

“...in case of floating rate of interest, any change in the rates of interest during the tariff period will be considered at the time of true up”.



17. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

18. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and approved as follows:-

| (₹ in lakh) | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-I | | | | | |
| Approved vide order dated 12.3.2013 | 8075.56 | 7143.58 | 6244.61 | 5413.78 | 4597.09 |
| As claimed by petitioner | 8040.33 | 7185.82 | 6511.51 | 5667.85 | 4814.57 |
| Allowed after True Up | 8040.34 | 7185.86 | 6511.53 | 5667.81 | 4814.68 |
| Combined Assets-II | | | | | |
| Approved vide order dated 12.3.2013 | 1808.59 | 1602.98 | 1396.78 | 1189.53 | 985.42 |
| As claimed by petitioner | 1798.12 | 1617.04 | 1469.40 | 1251.45 | 1031.18 |
| Allowed after True Up | 1798.09 | 1617.03 | 1469.39 | 1251.46 | 1031.18 |

Return on Equity ("ROE")

19. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provide that:

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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



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

Where "t" is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case maybe, shall recover the shortfall or refund the excess Annual Fixed Charge 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:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

20. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 15.3.2011. However, for truing up purpose, the computation of ROE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

| Particulars | MAT Rate (%) | Grossed up RoE (Base rate/(1-t)) (%) |
|-------------|--------------|--------------------------------------|
| 2009-10 | 16.995 | 18.674 |
| 2010-11 | 19.931 | 19.358 |
| 2011-12 | 20.008 | 19.377 |
| 2012-13 | 20.008 | 19.377 |
| 2013-14 | 20.961 | 19.610 |

21. Accordingly, trued up ROE is worked out by considering actual MAT rate for grossing up of ROE for Combined Assets-I and Combined Assets-II as shown in the table below:-



(₹ in lakh)

| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-------------------------------------|---------|---------|---------|---------|---------|
| Combined Assets-I | | | | | |
| Approved vide order dated 12.3.2013 | 8793.58 | 8789.99 | 8789.99 | 8789.99 | 8789.99 |
| As claimed by petitioner | 9393.71 | 9733.82 | 9743.37 | 9743.37 | 9860.53 |
| Allowed after true up | 9393.71 | 9733.81 | 9743.36 | 9743.36 | 9860.52 |
| Combined Assets-II | | | | | |
| Approved vide order dated 12.3.2013 | 1460.88 | 1460.88 | 1460.88 | 1460.88 | 1460.88 |
| As claimed by petitioner | 1560.58 | 1617.74 | 1619.33 | 1619.33 | 1638.80 |
| Allowed after true up | 1560.58 | 1617.74 | 1619.33 | 1619.33 | 1638.80 |

The variation in the return on equity allowed in the instant order with reference to the order dated 12.3.2013 is due to change in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

22. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

| | |
|------------------------------|-----------|
| (c) AC and DC sub-station | 25 years |
| (d) Hydro generating station | 35 years |
| (e) Transmission line | 35 years” |

23. Further, Clause (4) of Regulation 17 of the 2009 Tariff Regulations provides as follows:-

"17. Depreciation:

...



(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets.”

24. Regulation 17 of the 2009 Tariff Regulations provides the methodology to workout the depreciation. The Commission, in its order dated 12.3.2013, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

25. As per Regulation 17 (4) of the 2009 Tariff Regulations, useful life for transmission line, sub-station and PLCC is 35 years, 25 years, and 15 years, respectively. In the present case, weighted average life of Combined Assets-I and Combined Assets-II are 29 years and 32 years, respectively.

26. The Commission in its order dated 12.3.2013 in Petition No. 188/TT/2011 has stated that:-

“in case of de-capitalization on account of excise duty refund, there is no actual physical removal of any asset, but mere cost reduction in book value of the assets. As the excise duty was actually deployed and serviced in the tariff until it was actually refunded in 2009-10, the same should not be removed from the cumulative depreciation as this will lead to excess claim of depreciation by the petitioner and the depreciation claim would exceed the maximum of 90% as permissible in the 2009 Tariff Regulations. As such the amount of refund of excise duty has been removed from the original cost of the asset in 2009-10 and cumulative depreciation amount pertaining to the custom duty refund has not been removed.”

27. Accordingly, the depreciation for the tariff period 2009-14 for Combined Assets-I and Combined Assets-II have been worked out in accordance with



Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure and additional capitalisation as under:-

(₹ in lakh)

| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-------------------------------------|----------|----------|----------|----------|----------|
| Combined Assets-I | | | | | |
| Approved vide order dated 12.3.2013 | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| As claimed by petitioner | 13744.53 | 13740.91 | 13740.91 | 13740.91 | 13740.91 |
| Allowed after trued up | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| Combined Assets-II | | | | | |
| Approved vide order dated 12.3.2013 | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| As claimed by petitioner | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| Allowed after trued up | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |

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

28. The petitioner has computed O&M Expenses for the Combined Assets-I and Combined Assets-II mentioned in the petition, in accordance with the O&M norms in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses have been worked out as given below:-

(₹ in lakh)

| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|--------------------------|--|---------|---------|---------|---------|---------|
| Combined Assets-I | | | | | | |
| Actual line length (km) | 400kV Talcher kolar HVDC Line | 1369.16 | 1369.16 | 1369.16 | 1369.16 | 1369.16 |
| | 132Kv & below Earth electrode line (Talcher End) | 33.5 | 33.5 | 33.5 | 33.5 | 33.5 |
| | 132Kv & below Earth electrode line (Kolar End) | 31.61 | 31.61 | 31.61 | 31.61 | 31.61 |
| Actual (No. of bays) | 500kV Talcher kolar HVDC Bi-pole sub-station | 1 | 1 | 1 | 1 | 1 |



| Combined Assets-I | | | | | | |
|--------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Norms as per Regulation | Double Circuit (Bundled conductor with four or more sub-conductors) (₹lakh/km) | 0.940 | 0.994 | 1.051 | 1.111 | 1.174 |
| | Single Circuit (Bundled Conductor with four sub-conductors) (₹lakh/km) | 0.537 | 0.568 | 0.600 | 0.635 | 0.671 |
| | 500kV Talcher kolar HVDC Bi-pole sub-station (₹lakh) | 1699.00 | 1796.00 | 1899.00 | 2008.00 | 2122.00 |
| Total | | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |

(₹ in lakh)

| Combined Assets-II | | | | | | |
|---------------------------|---|---------|---------|---------|---------|---------|
| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Actual line length (km) | 400 kV S/C twin conductor, T/L | 476.36 | 476.36 | 476.36 | 476.36 | 476.36 |
| | 400 kV D/C twin conductor T/L | 83.91 | 83.91 | 83.91 | 83.91 | 83.91 |
| | 400 kV D/C quad conductor T/L | 51.07 | 51.07 | 51.07 | 51.07 | 51.07 |
| Actual (No. of bays) | 400 kV bays | 17 | 17 | 17 | 17 | 17 |
| | 220 kV bays | 11 | 11 | 11 | 11 | 11 |
| Norms as per Regulation | Single Circuit (Twin & Triple Conductor) (₹lakh/km) | 0.358 | 0.378 | 0.400 | 0.423 | 0.447 |
| | Double Circuit (Twin & Triple Conductor) (₹lakh/km) | 0.627 | 0.663 | 0.701 | 0.741 | 0.783 |



| Combined Assets-II | | | | | | |
|---------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| | Double Circuit (Bundled conductor with four or more sub-conductors) (₹lakh/km) | 0.940 | 0.994 | 1.051 | 1.111 | 1.174 |
| | 400 kV Substation (₹lakh/bay) | 52.40 | 55.40 | 58.57 | 61.92 | 65.46 |
| | 220 kV Substation (₹lakh/bay) | 36.68 | 38.78 | 41.00 | 43.34 | 45.82 |
| Total | | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |

29. The O&M Expenses claimed by the petitioner for the tariff period 2009-14 are same as that approved in the tariff order dated 12.3.2013 in Petition No. 188/TT/2011. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

| (₹ in lakh) | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-I | | | | | |
| Approved vide order dated 12.3.2013 | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |
| As claimed by petitioner | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |
| Allowed after trued up | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |
| Combined Assets-II | | | | | |
| Approved vide order dated 12.3.2013 | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |
| As claimed by petitioner | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |
| Allowed after trued up | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |

Interest on working capital ("IWC")

30. Sub-clause (c) of Clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission



system and Clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest on working capital.

31. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with Sub-clause (c) of Clause (1) of Regulation 18 of the 2009 Tariff Regulations.

32. The Commission vide order dated 12.3.2013 in Petition No. 188/TT/2011 approved rate of interest on working capital as 12.25% applicable for 2008-09. In accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work-out the interest on working capital in the instant case.

33. The IWC trued up for Combined Assets-I and Combined Assets-II are as under:-

| (₹ in lakh) | | | | | |
|--------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-I | | | | | |
| Maintenance Spares | 453.15 | 479.09 | 506.56 | 535.57 | 565.96 |
| O & M Expenses | 251.75 | 266.16 | 281.42 | 297.54 | 314.42 |



| | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Receivables | 5833.42 | 5775.55 | 5694.49 | 5584.79 | 5495.03 |
| Total | 6538.31 | 6520.80 | 6482.47 | 6417.91 | 6375.42 |
| Rate of Interest (%) | 12.25 | 12.25 | 12.25 | 12.25 | 12.25 |
| Interest | 800.94 | 798.80 | 794.10 | 786.19 | 780.99 |
| Combined Assets-II | | | | | |
| Maintenance Spares | 234.81 | 248.23 | 262.46 | 277.47 | 293.31 |
| O & M Expenses | 130.45 | 137.90 | 145.81 | 154.15 | 162.95 |
| Receivables | 1196.71 | 1191.27 | 1183.03 | 1163.46 | 1147.78 |
| Total | 1561.97 | 1577.40 | 1591.30 | 1595.08 | 1604.05 |
| Rate of Interest (%) | 12.25 | 12.25 | 12.25 | 12.25 | 12.25 |
| Interest | 191.34 | 193.23 | 194.93 | 195.40 | 196.50 |

34. The IWC claimed by the petitioner, allowed and trued up are as shown in the table below:-

| (₹ in lakh) | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-I | | | | | |
| Approved vide order dated 12.3.2013 | 789.17 | 778.25 | 768.67 | 761.03 | 754.14 |
| As claimed by petitioner | 800.94 | 798.80 | 794.10 | 786.19 | 780.99 |
| Allowed after true up | 800.94 | 798.80 | 794.10 | 786.19 | 780.99 |
| Combined Assets-II | | | | | |
| Approved vide order dated 12.3.2013 | 189.48 | 189.67 | 190.12 | 190.80 | 191.83 |
| As claimed by petitioner | 191.34 | 193.23 | 194.93 | 195.40 | 196.50 |
| Allowed after true up | 191.34 | 193.23 | 194.93 | 195.40 | 196.50 |

35. The IWC has increased on account of increase in receivables due to variation in ROE on account of applicable MAT rate during the 2009-14 tariff period.



ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

36. The detailed computation of the various components of the trued up annual fixed charges for the transmission asset for the tariff period 2009-14 is summarised below:

| (₹ in lakh) | | | | | |
|--|-------------|-------------|-------------|-----------|-----------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-I | | | | | |
| Gross Block | | | | | |
| Opening Gross block | 261006.13 | 260869.29 | 260869.29 | 260869.29 | 260869.29 |
| Addition during 2009-14 due to Additional Capitalisation | -136.84 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 260869.29 | 260869.29 | 260869.29 | 260869.29 | 260869.29 |
| Average Gross Block | 260937.71 | 260869.29 | 260869.29 | 260869.29 | 260869.29 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.267 | 5.267 | 5.267 | 5.267 | 5.267 |
| Depreciable Value | 234436.41 | 234374.83 | 234374.83 | 234374.83 | 234374.83 |
| Elapsed Life (Beginning of the year) | 6 | 7 | 8 | 9 | 10 |
| Weighted Balance Useful life of the assets | 23 | 22 | 21 | 20 | 19 |
| Remaining Depreciable Value | 1,35,226.22 | 1,21,420.11 | 1,07,679.19 | 93,938.28 | 80,197.36 |
| Depreciation | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| Cumulative Depreciation | 112954.72 | 126695.64 | 140436.56 | 154177.47 | 167918.39 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 210681.94 | 210586.15 | 210586.15 | 210586.15 | 210586.15 |
| Cumulative Repayment upto COD/ Previous Year | 99210.19 | 112954.72 | 126695.64 | 140436.56 | 154177.47 |
| Net Loan-Opening | 111471.75 | 97631.43 | 83890.51 | 70149.60 | 56408.68 |
| Addition due to Additional Capitalisation | -95.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| Net Loan-Closing | 97631.43 | 83890.51 | 70149.60 | 56408.68 | 42667.76 |



| | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Average Loan | 104551.59 | 90760.97 | 77020.06 | 63279.14 | 49538.22 |
| Weighted Average Rate of Interest on Loan (%) | 7.6903 | 7.9173 | 8.4543 | 8.9568 | 9.7191 |
| Interest | 8040.34 | 7185.86 | 6511.53 | 5667.81 | 4814.68 |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 50324.19 | 50283.14 | 50283.14 | 50283.14 | 50283.14 |
| Addition due to Additional Capitalisation | -41.05 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 50283.14 | 50283.14 | 50283.14 | 50283.14 | 50283.14 |
| Average Equity | 50303.66 | 50283.14 | 50283.14 | 50283.14 | 50283.14 |
| Return on Equity (Base Rate)(%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT rate for respective year(%) | 16.995 | 19.931 | 20.008 | 20.008 | 20.961 |
| Rate of Return on Equity (Pre Tax)(%) | 18.674 | 19.358 | 19.377 | 19.377 | 19.610 |
| Return on Equity (Pre Tax) | 9393.71 | 9733.81 | 9743.36 | 9743.36 | 9860.52 |
| | | | | | |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 453.15 | 479.09 | 506.56 | 535.57 | 565.96 |
| O & M expenses | 251.75 | 266.16 | 281.42 | 297.54 | 314.42 |
| Receivables | 5833.42 | 5775.55 | 5694.49 | 5584.79 | 5495.03 |
| Total | 6538.31 | 6520.80 | 6482.47 | 6417.91 | 6375.42 |
| Interest Rate (%) | 12.25 | 12.25 | 12.25 | 12.25 | 12.25 |
| Interest | 800.94 | 798.80 | 794.10 | 786.19 | 780.99 |
| | | | | | |
| Annual Transmission Charges | | | | | |
| Depreciation | 13744.53 | 13740.92 | 13740.92 | 13740.92 | 13740.92 |
| Interest on Loan | 8040.34 | 7185.86 | 6511.53 | 5667.81 | 4814.68 |
| Return on Equity | 9393.71 | 9733.81 | 9743.36 | 9743.36 | 9860.52 |
| Interest on Working Capital | 800.94 | 798.80 | 794.10 | 786.19 | 780.99 |
| O & M Expenses | 3020.97 | 3193.93 | 3377.05 | 3570.48 | 3773.08 |
| Total | 35000.50 | 34653.32 | 34166.96 | 33508.77 | 32970.19 |

(₹ in lakh)

| | | | | | |
|---------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Combined Assets-II | | | | | |
| Gross Block | | | | | |



| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|--|-----------|-----------|-----------|-----------|----------|
| Combined Assets-II | | | | | |
| Opening Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Addition during 2009-14 due to Additional Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Average Gross Block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.191 | 5.191 | 5.191 | 5.191 | 5.191 |
| Depreciable Value | 35356.92 | 35356.92 | 35356.92 | 35356.92 | 35356.92 |
| Elapsed Life (Beginning of the year) | 5 | 6 | 7 | 8 | 9 |
| Weighted Balance Useful life of the assets | 27 | 26 | 25 | 24 | 23 |
| Remaining Depreciable Value | 23,632.31 | 21,567.52 | 19,502.73 | 17,437.94 | 15373.15 |
| Depreciation | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| Cumulative Depreciation | 13789.40 | 15854.19 | 17918.98 | 19983.77 | 22048.56 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 31422.14 | 31422.14 | 31422.14 | 31422.14 | 31422.14 |
| Cumulative Repayment upto COD/ Previous Year | 11724.62 | 13789.41 | 15854.20 | 17918.99 | 19983.78 |
| Net Loan-Opening | 19697.52 | 17632.73 | 15567.94 | 13503.15 | 11438.36 |
| Addition due to Additional Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| Net Loan-Closing | 17632.73 | 15567.94 | 13503.15 | 11438.36 | 9373.57 |
| Average Loan | 18665.13 | 16600.34 | 14535.55 | 12470.76 | 10405.97 |
| Weighted Average Rate of Interest on Loan (%) | 9.6334 | 9.7410 | 10.1089 | 10.0351 | 9.9095 |
| Interest | 1798.09 | 1617.03 | 1469.39 | 1251.46 | 1031.18 |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Addition due to Additional Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Average Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Return on Equity (Base Rate)(%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT rate for respective year(%) | 16.995 | 19.931 | 20.008 | 20.008 | 20.961 |



| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Combined Assets-II | | | | | |
| Rate of Return on Equity (Pre Tax)(%) | 18.674 | 19.358 | 19.377 | 19.377 | 19.610 |
| Return on Equity (Pre Tax) | 1560.58 | 1617.74 | 1619.33 | 1619.33 | 1638.80 |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 234.81 | 248.23 | 262.46 | 277.47 | 293.31 |
| O & M expenses | 130.45 | 137.90 | 145.81 | 154.15 | 162.95 |
| Receivables | 1196.71 | 1191.27 | 1183.03 | 1163.46 | 1147.78 |
| Total | 1561.97 | 1577.40 | 1591.30 | 1595.08 | 1604.05 |
| Interest Rate (%) | 12.25 | 12.25 | 12.25 | 12.25 | 12.25 |
| Interest | 191.34 | 193.23 | 194.93 | 195.40 | 196.50 |
| Annual Transmission Charges | | | | | |
| Depreciation | 2064.79 | 2064.79 | 2064.79 | 2064.79 | 2064.79 |
| Interest on Loan | 1798.09 | 1617.03 | 1469.39 | 1251.46 | 1031.18 |
| Return on Equity | 1560.58 | 1617.74 | 1619.33 | 1619.33 | 1638.80 |
| Interest on Working Capital | 191.34 | 193.23 | 194.93 | 195.40 | 196.50 |
| O & M Expenses | 1565.43 | 1654.84 | 1749.73 | 1849.79 | 1955.43 |
| Total | 7180.23 | 7147.63 | 7098.17 | 6980.77 | 6886.70 |

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

37. The petitioner has claimed the transmission charges as under:

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Combined Assets-I | | | | | |
| Depreciation | 13740.91 | 3108.08 | 3115.71 | 3115.7 | 3115.72 |
| Interest on Loan | 3641.31 | 2697.68 | 2212.05 | 1826.65 | 1500.08 |
| Return on Equity | 9860.53 | 9868.5 | 9876.47 | 9876.47 | 9876.47 |
| Interest on Working Capital | 774.38 | 516.23 | 514.12 | 514.55 | 516.92 |
| O & M Expenses | 2666.5 | 2813.79 | 2971.38 | 3139.85 | 3318.67 |
| Total | 30683.63 | 19004.28 | 18689.73 | 18473.22 | 18327.86 |
| Combined Assets-II | | | | | |
| Depreciation | 2064.79 | 2064.79 | 458.94 | 458.93 | 458.94 |
| Interest on Loan | 816.46 | 595.27 | 449.11 | 393.16 | 401.47 |
| Return on Equity | 1638.8 | 1638.8 | 1638.8 | 1638.8 | 1638.8 |
| Interest on Working Capital | 203.23 | 201.44 | 164.52 | 166.74 | 170.56 |



| | | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| O & M Expenses | 1,795.42 | 1,855.29 | 1,916.95 | 1,980.43 | 2,046.19 |
| Total | 6518.70 | 6355.59 | 4628.32 | 4638.06 | 4715.96 |

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

| (₹ in lakh) | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Maintenance Spares | 399.98 | 422.07 | 445.71 | 470.98 | 497.80 |
| O & M Expenses | 222.21 | 234.48 | 247.62 | 261.65 | 276.56 |
| Receivables | 5113.94 | 3167.38 | 3114.96 | 3078.87 | 3054.64 |
| Total | 5736.12 | 3823.93 | 3808.28 | 3811.50 | 3829.00 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 774.38 | 516.23 | 514.12 | 514.55 | 516.92 |
| Combined Assets-II | | | | | |
| Maintenance Spares | 269.31 | 278.29 | 287.54 | 297.06 | 306.93 |
| O & M Expenses | 149.62 | 154.61 | 159.75 | 165.04 | 170.52 |
| Receivables | 1086.45 | 1059.26 | 771.39 | 773.01 | 785.99 |
| Total | 1505.38 | 1492.16 | 1218.67 | 1235.11 | 1263.44 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 203.23 | 201.44 | 164.52 | 166.74 | 170.56 |

Capital Cost

39. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provide 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.”

“(3) The Capital cost of an existing project shall include the following:
(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”



40. The petitioner has claimed the capital expenditure of ₹260869.29 lakh and ₹39779.11 lakh for Combined Assets-I and Combined Assets-II, respectively, as on 31.3.2014. Further, the petitioner has proposed additional capitalisation of ₹270.95 lakh on account of procurement of additional man-lifts for Talcher and Kolar HVDC stations during 2015-16 for Combined Assets-I while no additional capitalisation has been proposed for Combined Assets-II during the tariff period 2014-19.

41. The trued up capital cost of ₹260869.29 lakh for Combined Assets-I and ₹39779.11 lakh for Combined Assets-II as on 31.3.2014 has been considered as opening capital cost as on 1.4.2014 to work out the tariff for tariff period 2014-19.

Additional Capital Expenditure

42. The petitioner has claimed additional capitalisation of ₹270.95 lakh on account of procurement of additional man-lifts for Talcher and Kolar HVDC stations during 2015-16 under Clause (1) of Regulation 14 of the 2014 Tariff Regulations for Combined Assets-I.

43. Respondent No. 4, vide affidavit dated 18.12.2015, submitted that the cut off date of Combined Asset-I is 31.3.2006 and any additional capital expenditure claimed beyond the cut off date is to be treated only as per Regulation 14(2). Further, the Respondent No.4 submitted that the expenditure proposed is related to O&M activities and the petitioner have to meet out the expenditure out of O&M provided under Regulation 29(3) of the 2014 Tariff Regulations. In response, the petitioner vide affidavit dated 1.1.2016 submitted that it was typographical error



to mentioned the clause as 14(1) of 2014 Tariff Regulation instead of 14(3)(ix) of 2014 Tariff Regulation, for claiming additional capitalisation of ₹270.95 lakh.

44. No additional capitalisation has been proposed for Combined Assets-II.

45. The petitioner was directed to furnish justification for claimed additional capitalization for Combined Assets-I with details and basis of estimation. In this regard, the petitioner submitted that additional capitalization of ₹270.95 lakh for Combined Assets-I have been claimed for procurement of additional man-lifts for Talcher HVDC Substation, approved in 36th meeting of Standing Committee on Power System Planning of Southern Region held on 4.9.2013 and ratification of the same in the 23rd SRPC meeting held on 26.10.2013. Further, the petitioner submitted that estimates are based on the quotations received from the supplier.

46. Clause (3)(ix) of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“...(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

...

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and”



47. As the additional capitalisation claimed by the petitioner during the tariff period 2014-19 is against procurement of additional man-lifts for Talcher HVDC Substation and the same has been approved in SRPC meeting, the Commission provisionally approves the additional capitalisation of ₹270.95 lakh proposed by the petitioner, which will be trued up based on actual capitalisation. The summary of total capital cost including additional capitalisation considered for the determination of tariff is given below:-

(₹ in lakh)

| Particulars | Admitted capital cost as on 31.3.2014 | Projected Additional Capitalisation | | | | | Total additional capitalisation | Total capital cost including additional capitalisation |
|--------------------|---------------------------------------|-------------------------------------|---------|---------|---------|---------|---------------------------------|--|
| | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | | |
| Combined Assets-I | 260869.29 | 0.00 | 270.95 | 0.00 | 0.00 | 0.00 | 270.95 | 261140.24 |
| Combined Assets-II | 39779.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39779.11 |

Debt: Equity Ratio

48. Clause 3 and 4 of Regulation 19 of the 2014 Tariff Regulations provide as under:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt:equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.”



49. The admitted debt:equity ratio of 80.72:19.28 for Combined Assets-I and 78.99:21.01 for Combined Assets-II for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014 for determination of tariff for the period 2014-19. The admitted debt:equity ratio as on 1.4.2014 for the purpose of determination of tariff is as follows:-

| Funding | Amount (₹ in lakh) | (%) |
|---------------------------|--------------------|--------|
| Combined Assets-I | | |
| Debt | 210586.15 | 80.72 |
| Equity | 50283.14 | 19.28 |
| Total | 260869.29 | 100.00 |
| Combined Assets-II | | |
| Debt | 31422.14 | 78.99 |
| Equity | 8356.97 | 21.01 |
| Total | 39779.11 | 100.00 |

50. The normative debt:equity ratio of 70:30 has been considered for additional capitalisation proposed during the tariff period 2014-19.

Interest on Loan ("IOL")

51. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(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.”



52. The Respondent No.4 vide affidavit dated 18.12.2015 requested the Commission to restrict the rate of interest on loans to the actual for the year 2013-14 and to direct the petitioner to furnish the steps taken for reducing the cost of loan. In response, the petitioner vide affidavit dated 1.1.2016 submitted that rate of interest for the individual loans deployed for 2014-15 is being considered as that of the rate as on 31.03.2014 and the same is subjected to be revised as per actual at the time of true-up for 2014-19.

53. The weighted average rate of IOL has been considered based on the actual loan portfolio, interest on actual loan prevailing as on 1.4.2014 and average loan amount by considering repayment and additions. As there is no actual loan portfolio in 2018-19, weighted average rate of IOL for 2017-18, i.e., 8.63% has been considered in 2018-19 as per aforementioned Clause (5) of Regulation 26 of the 2014 Tariff Regulations. The details of interest rate of individual loan and weighted average rate of interest are placed at **Annexure-II**. The summary of weighted average rate of interest is given in the following table:

| (₹ in lakh) | | | | | |
|---------------------------|----------|----------|----------|----------|----------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Average Loan | 35797.30 | 27467.63 | 24450.57 | 21334.86 | 18219.16 |
| Interest | 3641.37 | 2697.76 | 2212.23 | 1827.31 | 1504.35 |
| Rate of Interest (%) | 10.1722 | 9.8216 | 9.0478 | 8.5649 | 8.2570 |
| Combined Assets-II | | | | | |
| Average Loan | 8341.18 | 6276.39 | 5014.52 | 4555.58 | 4096.64 |
| Interest | 816.46 | 595.27 | 449.11 | 393.14 | 353.54 |
| Rate of Interest (%) | 9.7833 | 9.4843 | 8.9562 | 8.6299 | 8.6299 |



54. The IOL has been worked out by considering normative loan and weighted average rate of interest in accordance with Regulation 26 of the 2014 Tariff Regulations as follows:-

| (₹ in lakh) | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Gross loan opening | 210586.15 | 210586.15 | 210775.82 | 210775.82 | 210775.82 |
| Cumulative Repayment upto COD/previous year | 167918.39 | 181659.31 | 184767.39 | 187883.10 | 190998.81 |
| Net Loan-Opening | 42667.76 | 28926.84 | 26008.42 | 22892.72 | 19777.01 |
| Additions during the year | 0.00 | 189.67 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Net Loan-Closing | 28926.84 | 26008.42 | 22892.72 | 19777.01 | 16661.31 |
| Average Loan | 35797.30 | 27467.63 | 24450.57 | 21334.86 | 18219.16 |
| Rate of Interest (%) | 10.1722 | 9.8216 | 9.0478 | 8.5649 | 8.2570 |
| Interest on Loan | 3641.37 | 2697.76 | 2212.23 | 1827.31 | 1504.35 |
| Combined Assets-II | | | | | |
| Gross loan opening | 31422.14 | 31422.14 | 31422.14 | 31422.14 | 31422.14 |
| Cumulative Repayment upto COD/previous year | 22048.57 | 24113.36 | 26178.15 | 26637.09 | 27096.03 |
| Net Loan-Opening | 9373.57 | 7308.78 | 5243.99 | 4785.05 | 4326.11 |
| Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |
| Net Loan-Closing | 7308.78 | 5243.99 | 4785.05 | 4326.11 | 3867.17 |
| Average Loan | 8341.18 | 6276.39 | 5014.52 | 4555.58 | 4096.64 |
| Rate of Interest (%) | 9.7833 | 9.4843 | 8.9562 | 8.6299 | 8.6299 |
| Interest on Loan | 816.46 | 595.27 | 449.11 | 393.14 | 353.54 |

Return on Equity ("ROE")

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



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

“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.”

56. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate for 2013-14 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.

57. 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.



58. 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, MAT rate applicable during 2013-14 has been considered for the purpose of allowing return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, ROE is worked out as given below:-

| (₹ in lakh) | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Opening Equity | 50283.14 | 50283.14 | 50364.42 | 50364.42 | 50364.42 |
| Addition due to Additional Capitalization | 0.00 | 81.29 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 50283.14 | 50364.42 | 50364.42 | 50364.42 | 50364.42 |
| Average Equity | 50283.14 | 50323.78 | 50364.42 | 50364.42 | 50364.42 |
| Return on Equity Base Rate (%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT Rate for the year (%) | 20.961 | 20.961 | 20.961 | 20.961 | 20.961 |
| Rate of Return on Equity (Pre-Tax) (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre-Tax) | 9860.52 | 9868.49 | 9876.46 | 9876.46 | 9876.46 |
| Combined Assets-II | | | | | |
| Opening Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Addition due to Additional Capitalization | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Average Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Return on Equity Base Rate (%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT Rate for the year (%) | 20.961 | 20.961 | 20.961 | 20.961 | 20.961 |



| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Rate of Return on Equity(Pre-Tax) (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre-Tax) | 1638.80 | 1638.80 | 1638.80 | 1638.80 | 1638.80 |

Depreciation

59. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"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."

60. The petitioner has computed depreciation considering capital expenditure of ₹260869.29 lakh for Combined Assets-I and ₹39779.11 lakh for Combined Assets-II as on 31.3.2014.

61. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the



2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

| (₹ in lakh) | | | | | |
|--|-----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Opening Gross block | 260869.29 | 260869.29 | 261140.24 | 261140.24 | 261140.24 |
| Additions during the year due to projected additional capitalization | 0.00 | 270.95 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 260869.29 | 261140.24 | 261140.24 | 261140.24 | 261140.24 |
| Rate of Depreciation (%) | 5.267 | 1.191 | 1.193 | 1.193 | 1.193 |
| Depreciable Value | 234374.83 | 234496.76 | 234618.69 | 234618.69 | 234618.69 |
| Elapsed Life of the assets at beginning of the year | 11 | 12 | 13 | 14 | 15 |
| Weighted Balance Useful life of the assets | 18 | 17 | 16 | 15 | 14 |
| Remaining Depreciable Value | 66456.44 | 52837.45 | 49851.29 | 46735.59 | 43619.88 |
| Depreciation | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Combined Assets-II | | | | | |
| Opening Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Additions during the year due to projected additional capitalization | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Rate of Depreciation (%) | 5.191 | 5.191 | 1.154 | 1.154 | 1.154 |
| Depreciable Value | 35356.92 | 35356.92 | 35356.92 | 35356.92 | 35356.92 |
| Elapsed Life of the assets at beginning of the year | 10 | 11 | 12 | 13 | 14 |
| Weighted Balance Useful life of the assets | 22 | 21 | 20 | 19 | 18 |
| Remaining Depreciable Value | 13308.36 | 11243.57 | 9178.78 | 8719.84 | 8260.90 |
| Depreciation | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |

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

62. The petitioner has computed normative O&M Expenses as per sub-clause (a) of Clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M Expenses for Combined Assets-I and Combined Assets-II has been worked out as given hereunder:-



(₹ in lakh)

| Combined Assets-I | | | | | | |
|-------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Actual line length (km) | 400kV Talcher kolar HVDC Line | 1369.16 | 1369.16 | 1369.16 | 1369.16 | 1369.16 |
| | 132kV& below Earth electrode line (Talcher End) | 33.50 | 33.50 | 33.50 | 33.50 | 33.50 |
| | 132kV& below Earth electrode line (Kolar End) | 31.61 | 31.61 | 31.61 | 31.61 | 31.61 |
| Actual (No. of bays) | 500kV Talcher kolar HVDC Bi-pole sub-station | 1 | 1 | 1 | 1 | 1 |
| Norms as per Regulation | Double Circuit (Bundled conductor with four or more sub-conductors) (₹lakh/km) | 1.062 | 1.097 | 1.133 | 1.171 | 1.210 |
| | Single Circuit (Bundled Conductor with four sub-conductors) (₹lakh/km) | 0.606 | 0.627 | 0.647 | 0.669 | 0.691 |
| | 500kV Talcher kolar HVDC Bi-pole sub-station (₹lakh) | 1173 | 1271 | 1378 | 1493 | 1617 |
| Total | | 2666.50 | 2813.79 | 2971.38 | 3139.84 | 3318.67 |

(₹ in lakh)

| Combined Assets-II | | | | | | |
|-------------------------|--------------------------------|---------|---------|---------|---------|---------|
| Particulars | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Actual line length (km) | 400 kV S/C twin conductor, T/L | 476.36 | 476.36 | 476.36 | 476.36 | 476.36 |
| | 400 kV D/C twin conductor T/L | 83.91 | 83.91 | 83.91 | 83.91 | 83.91 |
| | 400 kV D/C quad conductor T/L | 51.07 | 51.07 | 51.07 | 51.07 | 51.07 |
| Actual (No. of bays) | 400kV bays | 17 | 17 | 17 | 17 | 17 |



| Combined Assets-II | | | | | | |
|---------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| | 220kV bays | 11 | 11 | 11 | 11 | 11 |
| Norms as per Regulation | Single Circuit (Twin & Triple Conductor) (₹lakh/km) | 0.404 | 0.418 | 0.432 | 0.446 | 0.461 |
| | Double Circuit (Twin & Triple Conductor) (₹lakh/km) | 0.707 | 0.731 | 0.755 | 0.780 | 0.806 |
| | Double Circuit (Bundled conductor with four or more sub-conductors) (₹lakh/km) | 1.062 | 1.097 | 1.133 | 1.171 | 1.210 |
| | 400 kV Substation (₹lakh/bay) | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |
| | 220 kV Substation (₹lakh/bay) | 42.21 | 43.61 | 45.06 | 46.55 | 48.10 |
| Total | | 1795.42 | 1855.29 | 1916.95 | 1980.43 | 2046.19 |

63. The petitioner has submitted that 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 Company is due during 2014-19 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. In this regards, Respondent No.4 requested the Commission to



disallow the claim of the petitioner to include the impact of wage revision in the O&M Expenses as the norms determined by the Commission is in accordance with the guidance issued by the Central Electricity Authority and other authorities and already on higher side. Further, Respondent No.4 requested the Commission to disallow the petitioner to approach the Commission through review petition in this regards. In response the petitioner vide affidavit dated 1.1.2016 submitted that being a Central Public Sector Unit (CPSU), the scheme of wage revision is binding on the petitioner. However, the actual impact of wage hike (due w.e.f. 1.1.2017) has not been factored in fixation of normative O&M norms for tariff period 2014-19. Further, the petitioner submitted that in line with Regulation 19(f) (ii) of the 2009 Tariff Regulations, norms for O&M expenses for the year 2009-10 were derived considering the impact of wage hike of the employees under PSUs.

64. 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, we would like to clarify that any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

65. The details of O&M Expenses allowed are given hereunder:-

| Particulars | Year | | | | |
|---------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | 2666.50 | 2813.79 | 2971.38 | 3139.84 | 3318.67 |
| Combined Assets-II | 1795.42 | 1855.29 | 1916.95 | 1980.43 | 2046.19 |



Interest on Working Capital (“IWC”)

66. 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

- (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;”

67. The petitioner has submitted that it has computed IWC for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered for the purpose of computation of tariff is 13.50%.

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

| | (₹ in lakh) | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Combined Assets-I | | | | | |
| Maintenance Spares | 399.98 | 422.07 | 445.71 | 470.98 | 497.80 |
| O & M expenses | 222.21 | 234.48 | 247.62 | 261.65 | 276.56 |
| Receivables | 5113.95 | 3167.39 | 3114.98 | 3078.98 | 3055.37 |
| Total | 5736.13 | 3823.95 | 3808.31 | 3811.61 | 3829.73 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 774.38 | 516.23 | 514.12 | 514.57 | 517.01 |
| Combined Assets-II | | | | | |
| Maintenance Spares | 269.31 | 278.29 | 287.54 | 297.06 | 306.93 |
| O & M expenses | 149.62 | 154.61 | 159.75 | 165.04 | 170.52 |
| Receivables | 1086.45 | 1059.27 | 771.39 | 773.01 | 777.82 |



| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| Total | 1505.38 | 1492.17 | 1218.67 | 1235.11 | 1255.27 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 203.23 | 201.44 | 164.52 | 166.74 | 169.46 |

Annual Transmission Charges

69. The Annual Transmission Charges allowed for the transmission asset is given hereunder:-

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Combined Assets-I | | | | | |
| Depreciation | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Interest on Loan | 3641.37 | 2697.76 | 2212.23 | 1827.31 | 1504.35 |
| Return on Equity | 9860.52 | 9868.49 | 9876.46 | 9876.46 | 9876.46 |
| Interest on Working Capital | 774.38 | 516.23 | 514.12 | 514.57 | 517.01 |
| O & M Expenses | 2666.50 | 2813.79 | 2971.38 | 3139.84 | 3318.67 |
| Total | 30683.69 | 19004.36 | 18689.91 | 18473.89 | 18332.21 |
| Combined Assets-II | | | | | |
| Depreciation | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |
| Interest on Loan | 816.46 | 595.27 | 449.11 | 393.14 | 353.54 |
| Return on Equity | 1638.80 | 1638.80 | 1638.80 | 1638.80 | 1638.80 |
| Interest on Working Capital | 203.23 | 201.44 | 164.52 | 166.74 | 169.46 |
| O & M Expenses | 1795.42 | 1855.29 | 1916.95 | 1980.43 | 2046.19 |
| Total | 6518.69 | 6355.59 | 4628.32 | 4638.05 | 4666.93 |

70. The detailed computation of various components of annual fixed charges for the tariff period 2014-19 is summarized below:-

(₹ in lakh)

| Combined Assets-I | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Block | | | | | |
| Opening Gross block | 260869.29 | 260869.29 | 261140.24 | 261140.24 | 261140.24 |
| Additional Capitalization during 2014-19 | 0.00 | 270.95 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 260869.29 | 261140.24 | 261140.24 | 261140.24 | 261140.24 |



| Combined Assets-I | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Average Gross block | 260869.29 | 261004.77 | 261140.24 | 261140.24 | 261140.24 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.267 | 1.191 | 1.193 | 1.193 | 1.193 |
| Depreciable Value | 234374.83 | 234496.76 | 234618.69 | 234618.69 | 234618.69 |
| Elapsed Life of the assets at beginning of the year | 11 | 12 | 13 | 14 | 15 |
| Weighted Balance Useful life of the assets | 18 | 17 | 16 | 15 | 14 |
| Remaining Depreciable Value | 66456.44 | 52837.45 | 49851.29 | 46735.59 | 43619.88 |
| Depreciation | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Cumulative Depreciation | 181659.31 | 184767.39 | 187883.10 | 190998.81 | 194114.51 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 210586.15 | 210586.15 | 210775.82 | 210775.82 | 210775.82 |
| Cumulative Repayment upto COD/Previous Year | 167918.39 | 181659.31 | 184767.39 | 187883.10 | 190998.81 |
| Net Loan-Opening | 42667.76 | 28926.84 | 26008.42 | 22892.72 | 19777.01 |
| Addition due to Additional Capitalization | 0.00 | 189.67 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Net Loan-Closing | 28926.84 | 26008.42 | 22892.72 | 19777.01 | 16661.31 |
| Average Loan | 35797.30 | 27467.63 | 24450.57 | 21334.86 | 18219.16 |
| Weighted Average Rate of Interest on Loan (%) | 10.1722 | 9.8216 | 9.0478 | 8.5649 | 8.2570 |
| Interest | 3641.37 | 2697.76 | 2212.23 | 1827.31 | 1504.35 |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 50283.14 | 50283.14 | 50364.42 | 50364.42 | 50364.42 |
| Additions | 0.00 | 81.29 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 50283.14 | 50364.42 | 50364.42 | 50364.42 | 50364.42 |
| Average Equity | 50283.14 | 50323.78 | 50364.42 | 50364.42 | 50364.42 |
| Return on Equity (Base Rate) (%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT Rate for the year 2013-14 (%) | 20.961 | 20.961 | 20.961 | 20.961 | 20.961 |



| Combined Assets-I | | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Rate of Return on Equity (Pre Tax) (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre Tax) | 9860.52 | 9868.49 | 9876.46 | 9876.46 | 9876.46 |
| | | | | | |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 399.98 | 422.07 | 445.71 | 470.98 | 497.80 |
| O & M expenses | 222.21 | 234.48 | 247.62 | 261.65 | 276.56 |
| Receivables | 5113.95 | 3167.39 | 3114.98 | 3078.98 | 3055.37 |
| Total | 5,736.13 | 3,823.95 | 3,808.31 | 3,811.61 | 3,829.73 |
| Interest Rate (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 774.38 | 516.23 | 514.12 | 514.57 | 517.01 |
| | | | | | |
| Annual Transmission Charges | | | | | |
| Depreciation | 13740.92 | 3108.09 | 3115.71 | 3115.71 | 3115.71 |
| Interest on Loan | 3641.37 | 2697.76 | 2212.23 | 1827.31 | 1504.35 |
| Return on Equity | 9860.52 | 9868.49 | 9876.46 | 9876.46 | 9876.46 |
| Interest on Working Capital | 774.38 | 516.23 | 514.12 | 514.57 | 517.01 |
| O & M Expenses | 2666.50 | 2813.79 | 2971.38 | 3139.84 | 3318.67 |
| Total | 30683.69 | 19004.36 | 18689.91 | 18473.89 | 18332.21 |

(₹ in lakh)

| Combined Assets-II | | | | | |
|---|----------|----------|----------|----------|----------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Block | | | | | |
| Opening Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Additional Capitalization during 2014-19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| Average Gross block | 39779.11 | 39779.11 | 39779.11 | 39779.11 | 39779.11 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.191 | 5.191 | 1.154 | 1.154 | 1.154 |
| Depreciable Value | 35356.92 | 35356.92 | 35356.92 | 35356.92 | 35356.92 |
| Elapsed Life of the assets at beginning of the year | 10 | 11 | 12 | 13 | 14 |



| Combined Assets-II | | | | | |
|---|----------|----------|----------|----------|----------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Weighted Balance Useful life of the assets | 22 | 21 | 20 | 19 | 18 |
| Remaining Depreciable Value | 13308.36 | 11243.57 | 9178.78 | 8719.84 | 8260.90 |
| Depreciation | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |
| Cumulative Depreciation | 24113.35 | 26178.14 | 26637.08 | 27096.02 | 27554.96 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 31422.14 | 31422.14 | 31422.14 | 31422.14 | 31422.14 |
| Cumulative Repayment upto Previous Year | 22048.57 | 24113.36 | 26178.15 | 26637.09 | 27096.03 |
| Net Loan-Opening | 9373.57 | 7308.78 | 5243.99 | 4785.05 | 4326.11 |
| Addition due to Additional Capitalization | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |
| Net Loan-Closing | 7308.78 | 5243.99 | 4785.05 | 4326.11 | 3867.17 |
| Average Loan | 8341.18 | 6276.39 | 5014.52 | 4555.58 | 4096.64 |
| Weighted Average Rate of Interest on Loan (%) | 9.7883 | 9.4843 | 8.9562 | 8.6299 | 8.6299 |
| Interest | 816.46 | 595.27 | 449.11 | 393.14 | 353.54 |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Additions | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Average Equity | 8356.97 | 8356.97 | 8356.97 | 8356.97 | 8356.97 |
| Return on Equity (Base Rate) (%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| MAT Rate for the year 2013-14 (%) | 20.961 | 20.961 | 20.961 | 20.961 | 20.961 |
| Rate of Return on Equity (Pre Tax) (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre Tax) (%) | 1638.80 | 1638.80 | 1638.80 | 1638.80 | 1638.80 |
| | | | | | |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 269.31 | 278.29 | 287.54 | 297.06 | 306.93 |
| O & M expenses | 149.62 | 154.61 | 159.75 | 165.04 | 170.52 |
| Receivables | 1086.45 | 1059.27 | 771.39 | 773.01 | 777.82 |
| Total | 1,505.38 | 1,492.17 | 1,218.67 | 1,235.11 | 1,255.27 |
| Interest Rate | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |



| Combined Assets-II | | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Interest | 203.23 | 201.44 | 164.52 | 166.74 | 169.46 |
| | | | | | |
| Annual Transmission Charges | | | | | |
| Depreciation | 2064.79 | 2064.79 | 458.94 | 458.94 | 458.94 |
| Interest on Loan | 816.46 | 595.27 | 449.11 | 393.14 | 353.54 |
| Return on Equity | 1638.80 | 1638.80 | 1638.80 | 1638.80 | 1638.80 |
| Interest on Working Capital | 203.23 | 201.44 | 164.52 | 166.74 | 169.46 |
| O & M Expenses | 1795.42 | 1855.29 | 1916.95 | 1980.43 | 2046.19 |
| Total | 6518.69 | 6355.59 | 4628.32 | 4638.05 | 4666.93 |

Filing Fee and Publication Expenses

71. 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

72. The petitioner has requested to allow the petitioner to bill and recover licence 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.



Foreign Exchange Rate Variation

73. The petitioner has sought recovery of FERV on foreign loans deployed as provided in Clause 50 of the 2014 Tariff Regulations. The generating companies and transmission licensees are allowed to recover the cost of hedging corresponding to the normative foreign debt on year to year basis as expense, and extra rupee liability corresponding to such foreign exchange is not allowed against the hedged foreign debt. To the extent the generating companies and transmission licensees have not hedged the foreign exchange exposure in their best judgements; extra rupee liability arising out of such foreign exchange rate variation has been allowed as a pass through, provided that such non-exposure is not attributable to the generating company or the transmission licensee or its supplier or contractors.

74. As per Clause 51 of the 2014 Tariff Regulations, the petitioner is entitled to recovery of cost of hedging or foreign exchange rate variation directly from long term transmission customers/DICs, without making any application before the Commission.

Service Tax

75. 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 are of the view that the petitioner's prayer is premature.



Deferred Tax Liability

76. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations. In this regards, Respondent No.4 vide affidavit dated 18.12.2015 requested the Commission to disallow the claim of the petitioner for recovering the deferred tax liability prior to 1.4.2009 from the beneficiaries as the claim is unreasonable. The Commission agrees with the petitioner that deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended and accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

Sharing of Transmission Charges

77. 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.

78. This order disposes of Petition No. 499/TT/2014.

Sd/-

(Dr. M. K. Iyer)
Member

Sd/-

(A.S. Bakshi)
Member



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR COMBINED ASSETS-I

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on 1.4.2009 | Additions during the tariff period | Total |
|---|-------------------|------------------------------|------------------------------------|------------------|
| BOND IX COD-1.3.2003 | 12.25 | 17043.00 | 0.00 | 17043.00 |
| BOND X COD-1.3.2003 | 10.90 | 34425.00 | 0.00 | 34425.00 |
| BOND XI Option 1 COD-1.3.2003 | 9.80 | 23673.00 | 0.00 | 23673.00 |
| BOND XII COD-1.3.2003 | 9.70 | 1912.00 | 0.00 | 1912.00 |
| BOND XIII option I COD-1.3.2003 | 8.63 | 13015.00 | 0.00 | 13015.00 |
| BOND XIII Option II | 7.85 | 50.00 | 0.00 | 50.00 |
| BOND XVIII-Add Cap for 2005-06 drawal on 9.3.2006 | 8.15 | 317.00 | 0.00 | 317.00 |
| BOND XXII -Add Cap for 2007-08 drawal on 1.4.2007 | 8.68 | 50.00 | 0.00 | 50.00 |
| OBC - COD-1.3.2003 | 9.60 | 10899.00 | 0.00 | 10899.00 |
| PNB-II - COD-1.3.2003 | 8.89 | 12169.00 | 0.00 | 12169.00 |
| KFW Commercial (Floating)COD 1.12.2002 | 1.70 | 2465.24 | 0.00 | 2465.24 |
| KFW Commercial (Floating)COD 1.3.2003 | 1.70 | 882.76 | 0.00 | 882.76 |
| KFW Commercial (Fixed) COD 1.12.2012 | 5.54 | 9259.46 | 0.00 | 9259.46 |
| KFW Commercial (Fixed)COD 1.3.2003 | 5.54 | 3315.65 | 0.00 | 3315.65 |
| KFW ECA Commercial (Fixed)COD 1.12.2002 | 3.84 | 48288.78 | 0.00 | 48288.78 |
| KFW ECA Commercial (Fixed)COD 1.3.2003 | 3.84 | 17291.29 | 0.00 | 17291.29 |
| KFW ECA Commercial (Floating)COD 1.12.2002 | 0.86 | 8051.90 | 0.00 | 8051.90 |
| KFW ECA Commercial (Floating)COD 1.3.2003 | 0.86 | 2883.31 | 0.00 | 2883.31 |
| Total Loan | | 205991.39 | 0.00 | 205991.39 |



**WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS-I
DURING 2009-14 TARIFF PERIOD**

(₹ in lakh)

| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|-----------|-----------|-----------|-----------|-----------|
| Gross Opening Loan | 205991.39 | 205991.39 | 205991.39 | 205991.39 | 205991.39 |
| Cumulative Repayment of loan upto previous year | 97026.05 | 115970.10 | 134918.32 | 153866.54 | 172814.76 |
| Net Loan Opening | 108965.34 | 90021.29 | 71073.07 | 52124.85 | 33176.63 |
| Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 18944.05 | 18948.22 | 18948.22 | 18948.22 | 12641.83 |
| Net Loan Closing | 90021.29 | 71073.07 | 52124.85 | 33176.63 | 20534.80 |
| Average Loan | 99493.32 | 80547.18 | 61598.96 | 42650.74 | 26855.72 |
| Weighted Average Rate of Interest(%) | 7.69 | 7.92 | 8.45 | 8.96 | 9.72 |
| Interest | 7651.35 | 6377.20 | 5207.78 | 3820.16 | 2610.14 |

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR COMBINED ASSETS-II

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on 1.4.2009 | Additions during the tariff period | Total |
|--|-------------------|------------------------------|------------------------------------|----------|
| BOND IX-DOCO Drawal on 1.6.2003 | 12.25 | 2711.00 | 0.00 | 2711.00 |
| BOND X -DOCO Drawal on 1.6.2003 | 10.90 | 5156.00 | 0.00 | 5156.00 |
| BOND XI Option-I-DOCO Drawal on 1.6.2003 | 9.80 | 3765.00 | 0.00 | 3765.00 |
| BOND XII-DOCO Drawal on 1.6.2003 | 9.70 | 4919.00 | 0.00 | 4919.00 |
| BOND XIII Option-I-DOCO Drawal on 1.6.2003 | 8.63 | 6985.00 | 0.00 | 6985.00 |
| OBC -DOCO Drawal on 1.6.2003 | 9.60 | 2565.00 | 0.00 | 2565.00 |
| PNB-II -DOCO Drawal on 1.6.2003 | 8.89 | 3988.00 | 0.00 | 3988.00 |
| Total Loan | | 30089.00 | 0.00 | 30089.00 |



**WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS-II
DURING 2009-14 TARIFF PERIOD**

(₹ in lakh)

| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|----------|----------|----------|----------|----------|
| Gross Opening Loan | 30089.00 | 30089.00 | 30089.00 | 30089.00 | 30089.00 |
| Cumulative Repayment of loan upto previous year | 11146.27 | 13698.87 | 16251.47 | 18804.07 | 21356.67 |
| Net Loan Opening | 18942.73 | 16390.13 | 13837.53 | 11284.93 | 8732.33 |
| Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 2552.60 | 2552.60 | 2552.60 | 2552.60 | 2281.50 |
| Net Loan Closing | 16390.13 | 13837.53 | 11284.93 | 8732.33 | 6450.83 |
| Average Loan | 17666.43 | 15113.83 | 12561.23 | 10008.63 | 7591.58 |
| Weighted Average Rate of Interest (%) | 9.63 | 9.74 | 10.11 | 10.04 | 9.91 |
| Interest | 1701.88 | 1472.23 | 1269.81 | 1004.38 | 752.29 |

-// Annexure – II //-

**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR COMBINED
ASSETS-I**

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on 1.4.2014 | Additions during the tariff period | Total |
|---|-------------------|------------------------------|------------------------------------|----------|
| BOND IX COD-1.3.2003 | 12.25 | 17043.00 | 0.00 | 17043.00 |
| BOND X COD-1.3.2003 | 10.90 | 34425.00 | 0.00 | 34425.00 |
| BOND XI Option 1 COD-1.3.2003 | 9.80 | 23673.00 | 0.00 | 23673.00 |
| BOND XII COD-1.3.2003 | 9.70 | 1912.00 | 0.00 | 1912.00 |
| BOND XIII option I COD-1.3.2003 | 8.63 | 13015.00 | 0.00 | 13015.00 |
| BOND XIII Option II | 7.85 | 50.00 | 0.00 | 50.00 |
| BOND XVIII-Add Cap for 2005-06 drawal on 9.3.2006 | 8.15 | 317.00 | 0.00 | 317.00 |
| BOND XXII -Add Cap for 2007-08 drawal on 1.4.2007 | 8.68 | 50.00 | 0.00 | 50.00 |
| OBC - COD-1.3.2003 | 12.35 | 10899.00 | 0.00 | 10899.00 |
| PNB-II - COD-1.3.2003 | 11.60 | 12169.00 | 0.00 | 12169.00 |
| KFW Commercial (Floating)COD 1.12.2002 | 1.33 | 2465.24 | 0.00 | 2465.24 |
| KFW Commercial (Floating)COD 1.3.2003 | 1.33 | 882.76 | 0.00 | 882.76 |



| Particulars | Interest Rate (%) | Loan deployed as on 1.4.2014 | Additions during the tariff period | Total |
|--|-------------------|------------------------------|------------------------------------|-----------|
| KFW Commercial (Fixed) COD 1.12.2012 | 5.54 | 9259.46 | 0.00 | 9259.46 |
| KFW Commercial (Fixed)COD 1.3.2003 | 5.54 | 3315.65 | 0.00 | 3315.65 |
| KFW ECA Commercial (Fixed)COD 1.12.2002 | 3.84 | 48288.78 | 0.00 | 48288.78 |
| KFW ECA Commercial (Fixed)COD 1.3.2003 | 3.84 | 17291.29 | 0.00 | 17291.29 |
| KFW ECA Commercial (Floating)COD 1.12.2002 | 0.49 | 8051.90 | 0.00 | 8051.90 |
| KFW ECA Commercial (Floating)COD 1.3.2003 | 0.49 | 2883.31 | 0.00 | 2883.31 |
| Total Loan | | 205991.39 | 0.00 | 205991.39 |

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS-I DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|-----------|-----------|-----------|-----------|-----------|
| Gross Opening Loan | 205991.39 | 205991.39 | 205991.39 | 205991.39 | 205991.39 |
| Cumulative Repayment of loan upto previous year | 185456.59 | 193494.86 | 201533.13 | 204780.32 | 205895.49 |
| Net Loan Opening | 20534.80 | 12496.53 | 4458.26 | 1211.07 | 95.90 |
| Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 8038.27 | 8038.27 | 3247.19 | 1115.17 | 30.59 |
| Net Loan Closing | 12496.53 | 4458.26 | 1211.07 | 95.90 | 65.31 |
| Average Loan | 16515.67 | 8477.40 | 2834.67 | 653.49 | 80.60 |
| Weighted Average Rate of Interest(%) | 10.17 | 9.82 | 9.05 | 8.56 | 8.26 |
| Interest | 1680.00 | 832.62 | 256.47 | 55.97 | 6.66 |



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR COMBINED ASSETS-II

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on 1.4.2014 | Additions during the tariff period | Total |
|--|-------------------|------------------------------|------------------------------------|----------|
| BOND IX-DOCO Drawal on 1.6.2003 | 12.25 | 2711.00 | 0.00 | 2711.00 |
| BOND X -DOCO Drawal on 1.6.2003 | 10.90 | 5156.00 | 0.00 | 5156.00 |
| BOND XI Option-I-DOCO Drawal on 1.6.2003 | 9.80 | 3765.00 | 0.00 | 3765.00 |
| BOND XII-DOCO Drawal on 1.6.2003 | 9.70 | 4919.00 | 0.00 | 4919.00 |
| BOND XIII Option-I-DOCO Drawal on 1.6.2003 | 8.63 | 6985.00 | 0.00 | 6985.00 |
| OBC -DOCO Drawal on 1.6.2003 | 12.35 | 2565.00 | 0.00 | 2565.00 |
| PNB-II -DOCO Drawal on 1.6.2003 | 11.60 | 3988.00 | 0.00 | 3988.00 |
| Total Loan | | 30089.00 | 0.00 | 30089.00 |

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR COMBINED ASSETS-II DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|----------|----------|----------|----------|----------|
| Gross Opening Loan | 30089.00 | 30089.00 | 30089.00 | 30089.00 | 30089.00 |
| Cumulative Repayment of loan upto previous year | 23638.17 | 25919.67 | 28201.17 | 29506.92 | 30089.00 |
| Net Loan Opening | 6450.83 | 4169.33 | 1887.83 | 582.08 | 0.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 2281.50 | 2281.50 | 1305.75 | 582.08 | 0.00 |
| Net Loan Closing | 4169.33 | 1887.83 | 582.08 | 0.00 | 0.00 |
| Average Loan | 5310.08 | 3028.58 | 1234.96 | 291.04 | 0.00 |
| Weighted Average Rate of Interest (%) | 9.79 | 9.48 | 8.96 | 8.63 | 8.63 |
| Interest | 519.77 | 287.24 | 110.60 | 25.12 | 0.00 |

