**CENTRAL ELECTRICITY REGULATORY COMMISSION**
**NEW DELHI**

**Petition No. 233/TT/2015**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson**
**Shri A.K. Singhal, Member**
**ShriA.S. Bakshi, Member**
**Dr. M. K. Iyer, Member**

**Date of Hearing : 28.01.2016**
**Date of Order : 29.07.2016**

**In the matter of:**

Determination of final transmission tariff and truing up of Asset I : 400kV D/C Palatana-Silchar Twin Moose Conductor Transmission Line-247.39 km (COD : 1.9.2012) and Asset II: 400 kV D/C Silchar-Byrnihat (one circuit on D/C towers) Twin Moose Conductor Transmission Line-214.41 km (COD:1.3.2013) under Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2009for tariff block 2009-14 period.

**And in the matter of**

North East Transmission Company Limited,
House No. 051358, Road No. 3,
P.O- Dhaleswar, Agartala,
West Tripura-799007 **….Petitioner**

vs

1. Tripura State Electricity Corporation Limited,
   Bidyut Bhawan, North Banamaliupr,
   Agartala-799001

2. Assam Electricity Grid Corporation Limited,
   Bijulee Bhawan, Paltan Bazar, Guwahati-781001

3. Meghalaya State Electricity Board.
   Lumjingshai, Short Round Road, Shilong-1

4. Department of Power, Government of Nagaland,
   Kohima-797001

5. Power & Electricity Department, Government of Mizoram,
   Aizwal-796001

6. Electricity Department, Government of Manipur,
   Keishampat, Imphal-795001

7. Department of Power, Government of Arunachal Pradesh,
   Itanagar-791111

8. ONGC Tripura Power company Limited,
   ONGC Tripura Assets, Baarghat Complex,
   Agartala, Tripura-799014.

9. North Eastern Regional Power Committee,
   Nongrim Hills, Shillong- 793003

10. Power Grid Corporation of India limited
    Saudamini Plot no.-2
    Sector-29,Gurgaon-122001 **…Respondents**

**For Petitioner** : Shri Vishal Gupta,

**For Respondents** : Shri Rakesh Prasad, PGCIL

**ORDER**

The instant petition has been filed by North East Transmission Company Limited (NETCL) for determination of final transmission tariff and truing up of Asset I : 400kV D/C Palatana-Silchar Twin Moose Conductor Transmission Line-247.39 km and Asset II: 400kV D/C Silchar-Byrnihat (one circuit on D/C towers)

Twin Moose Conductor Transmission Line- 214.41 km under Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2009for tariff block 2009-14 period (hereinafter "the 2009 Tariff Regulations").

2. Investment Approval (IA) for the implementation of 400kV D/C Pallatana-Bongaigaon Transmission Line project was accorded by the Board of Directors of North East Transmission Company Ltd. vide Board meetings dated 29.6.2009 at an estimated completion cost of ₹177010 lakh including IDC of ₹18380 lakh. The petitioner's Board of Directors revised the capital cost of the project thrice. The capital cost of the project was approved for the third time on 23.6.2015 at an estimated cost of ₹225500 lakh (RCE -3).

3. The petitioner was granted transmission license for the instant project vide order dated 16.6.2009 in Petition No. 16/2009. The petitioner filed Petition No. 224/TT/2012 seeking transmission tariff for 2009-14 tariff period for the following assets:- (a) Asset-I: 400 kV D/C Palatana-Silchar Twin Moose Conductor Transmission Line-247 km; (b) Asset-II: 400 kV D/C Silchar-Byrnihat Twin Moose Conductor Transmission Line-210 km; (c) Asset-III: 400 kV D/C Byrnihat-Bongaigaon Twin Moose Conductor Transmission Line-204 km associated with 726.6 MW (2*363.3 MW) Gas Based Combined Cycle Power Project (GBCCPP) at Tripura of OPTCL. The petitioner had also prayed for grant of provisional tariff for the three assets under the 2009 Tariff Regulations. Provisional tariff for the said transmission assets was allowed vide order dated 26.9.2012.

4. NETCL later split the three assets into five assets as detailed below :-

| Srl. No. | Name of the asset | COD |
|---|---|---|
| 1. | Asset-I: 400 kV D/C Palatana-Silchar | 1.9.2012 |
| 2. | Asset-II: 400 kV D/C Silchar-Byrnihat (*) | 1.3.2013 |
| 3. | Asset-III: 400 kV D/C Byrnihat-Bongaigaon (*) | 22.2.2015 |
| 4. | Asset-IV: 400 kV D/C Silchar-Azara (*) | 27.7.2014 |
| 5. | Asset-V: 400 kV D/C Azara-Bongaigaon (*) | 16.1.2015 |

* One circuit on D/C towers.

5. As there was substantial change in the capital cost of the assets due to splitting of assets, Petition No.224/TT/2012 was disposed with a direction to the petitioner to file a revised petition as per the actual date of commercial operation and the relevant tariff regulations. However, the provisional tariff allowed vide order dated 26.9.2012 in Petition No.224/TT/2012 was allowed to continue in order to protect the commercial interest of NETCL. The relevant portion of the order is extracted hereunder:-

> "18. The Commission has already granted provisional tariff for Asset I. The provisional tariff was also granted for two circuits of 400 kV Silchar-Byrnihat Twin Moose Conductor line. However, on account of non-commissioning of the second circuit of Silchar-Byrnihat line, the second circuit was removed from PoC charges. The petitioner has prayed for grant of modified provisional tariff after taking into account the split assets of Byrnihat-Azara and Azara-Bongaigaon. We find that the two assets namely, 400 kV D/C Palatana-Silchar transmission line and 400 kV S/C Silchar-Byrnihat transmission line have been commissioned during the tariff period 2009-14. Out of the remaining three assets, 400 kV S/C Silchar-Azara transmission line has been commissioned during 2014-19 tariff period and the other two assets are yet to be commissioned. Therefore, the assets are covered under two tariff periods. In respect of the assets commissioned during 2009-14 period, the petitioner has filed the claims on projection basis and has been granted provisional tariff. If the final tariff is granted now on the basis of projected information i.e. after the 2009-14 tariff period is over, the petitioner will be required to file true-up petition. This will prolong the process of determination of tariff of the assets. Similarly, in respect of the assets which have been commissioned or are likely to be commissioned during 2014-19 period, the petitioner should be required to file the petition in accordance with the 2014 Tariff Regulations. In our view, it would be appropriate, if the present petition is disposed of with directions to the petitioner to file separate petitions for the assets commissioned during 2009-14 and 2014-19 periods in accordance with the applicable tariff regulations.

> 19. In view of the above, we direct the petitioner to file fresh petitions in accordance with the applicable regulations in respect of the assets of the project within one month from the date of issue of this order. Till the tariff is determined in accordance with the petitions to be filed by the petitioner, the provisional tariff granted vide order dated 26.9.2012 shall continue to be applicable in order to protect the commercial interests of the petitioner. "

6. Accordingly, the petitioner has filed Petition No.233/TT/2015 on 11.9.2015 claiming tariff for Assets I and II as per the provisions of 2009 Tariff Regulations, seeking tariff for 2009-14 tariff period. The petitioner also filed Petition No.213/TT/2015 on 31.7.2015 claiming tariff for all the five assets for the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (2014 Tariff Regulations). The order in Petition No.213/TT/2015 is reserved. The petitioner filed I.A. No. 25/IA/2016 seeking direction to refund the excess transmission charges received from the beneficiaries. The I.A. was disposed on 15.7.2016 directing the petitioner to refund the excess tariff collected from CTU and the CTU was directed to adjust the refunded amount in accordance with the Central Electricity Regulatory Commission Regulations (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010.

7. The petitioner was directed, vide ROP dated 28.1.2016, to submit the detailed break-up of approved costs under various heads/sub-heads and the completed cost of Assets I and II, covered in the instant petition, by 19.2.2016. The petitioner, vide affidavit dated 15.7.2016, has submitted revised tariff forms for Asset-I and Asset-II for the year 2012-13 and 2013-14.

8. The petitioner has claimed the following transmission charges for the instant assets:-

**(₹ in lakh)**

| Particulars | Asset I | | Asset -II | |
|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| Depreciation | 1809.98 | 3191.84 | 139.40 | 1694.34 |
| Interest on Loan | 3334.76 | 5620.41 | 254.18 | 3149.40 |
| Return on equity | 1371.39 | 2398.82 | 104.11 | 1272.31 |
| Interest on Working Capital | 166.50 | 281.20 | 12.68 | 152.84 |
| O & M Expenses | 106.93 | 193.71 | 7.56 | 95.84 |
| **Total** | **6789.56** | **11685.98** | **517.93** | **6364.80** |

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

**(₹ in lakh)**

| **Particulars** | **Asset I** | | **Asset -II** | |
|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| Maintenance Spares | 27.50 | 29.06 | 13.60 | 14.38 |
| O & M expenses | 15.28 | 16.14 | 7.56 | 7.99 |
| Receivables | 1910.66 | 1971.64 | 1011.86 | 1055.80 |
| **Total** | **1953.44** | **2016.84** | **1033.02** | **1078.17** |
| Interest | 168.08 | 291.43 | 12.70 | 155.79 |
| Rate of Interest | 14.75% | 14.45% | 14.75% | 14.45% |

10. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments/objections have been received from the public in response to the notice in newspaper.

11. Having heard the representatives of the petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.

**Capital cost**

12. Regulation 7 of the 2009 Tariff Regulations provides as follows:-

"(1)Capital cost for a project shall include**:-**

(a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii)being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.

(b) capitalized initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9.

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

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

13. The details of the capital cost claimed by the petitioner and the estimated completion cost is as follows:-

**(₹ in lakh)**

| Asset | Revised approved apportioned cost (RCE-3) | Expenditure up to COD | Exp. from COD to 31.3.13 | Expenditure | | | Total estimated expenditure |
|---|---|---|---|---|---|---|---|
| | | | | 2013-14 | 2014-15 | 2015-16 | |
| Asset-I | 63070.00 | 59756.00 | 185.27 | 1220.56 | 1755.30 | 153.00 | 63070.13 |
| Asset-II | 34941.00 | 30973.00 | 880.53 | 586.00 | 625.00 | 1876.00 | 34941.53 |

14. The total estimated completion cost of the instant assets as on 31.3.2014 is within the approved apportioned RCE-3 cost. However, there is variation in cost of some of the elements of the assets covered in the instant petition. The reasons given by the petitioner for variation in cost of the elements is as follows:-

**(₹ in lakh)**

| Description | IA dated 29.6.2009 | RCE dated 23.6.2015 | Variation | Remarks |
|---|---|---|---|---|
| Compensation towards crop, tree and PTCC | 850 | 11245 | 10395 | As per FR, the compensation of ₹850 lakh towards tree, hut and crop was estimated on normative basis @ Rs.1 lakh/km for 201 km in Palatana-Silchar section and 318 km in Silchar-Bongaigaon sections. The actual compensation certified by Revenue Authorities for the particular districts was paid ₹11245 lakh. |
| Colony and corporate office/ Regional Office for transmission Line | 620 | 1200 | 580 | As against provision of ₹600 lakh , the amount has been revised to ₹1200 lakh in REC since the land cost in Agartala, Silchar and Guwahati have increased considerably since 2008 when FR was prepared and Silchar and Guwahati land is yet to be purchased. The land purchased in Agartala is for ₹247 lakh |
| Transmission Line | 126760 | 137641 | 10881 | Low lying/water logging area, hilly terrains and reserve forest in Tripura. Diversion due to mobile towers, increase in number of angle towers, power line crossings. Diversion due to severe RoW problems. Route diversion to keep line away from Shillong Airport. To avoid terminal area of inland Water Authority of India near Brahmaputra. Alignment diverted to avoid house, market area and Misa-Byrnihat 220 kV transmission line. No. of towers have increased from 1756 to 1836. All these factors resulted in increase of T/L cost of |

| | | | | |
|---|---|---|---|---|
| | | | | ₹126776 lakh in Investment Approval to ₹137641 lakh i.e. an increase of ₹10881 lakh (8.58%) |
| ERS | 430 | 1147 | 771 | Cost of ERS as per the lowest offer in International Competitive Bidding and actual custom duty paid. |
| Project management Consultancy | 13140 | 17176 | 4036 | Since the cost of T/L and tree, hut and crop compensation has been increased, the consultancy fee of POWERGRID also increased from ₹13140 lakh to₹17176 lakh. |

15. We have considered the submissions of the petitioner. On perusal of the reasons submitted by the petitioner for RCE, it emerges that the project cost increased due to increase in compensation towards crop, tree and PTCC, transmission line cost, ERS and project management consultancy cost. We are of the view that the aforementioned reasons are beyond the control of the petitioner and therefore, the cost variation is allowed.

16. It is observed that the petitioner has filed the instant petition in terms of the 2009 Tariff Regulations, for grant of tariff. However, the petitioner has claimed additional capitalization of expenditure incurred for the period 2014-15 and 2015-16 which is beyond the scope of the 2009 Tariff Regulations. Therefore, the Additional Capital Expenditure claimed by the petitioner for the period 2014-15 and 2015-16 shall not be allowed in the instant petition. The allowed capital cost as per the 2009 Tariff Regulations, is given overleaf:-

**(₹ in lakh)**

| Asset | Revised Apportioned approved cost (RCE-3) | Expenditure up to COD | Ex. From COD to 31.3.13 | Expenditure | | | Total Estimated Expenditure |
|---|---|---|---|---|---|---|---|
| | | | | 2013-14 | 2014-15 | 2015-16 | |
| Asset-I | 63070.00 | 59756.00 | 185.27 | 1220.56 | 1755.30 | 153.00 | 63070.13 |
| Asset-II | 34941.00 | 30973.00 | 880.53 | 586.00 | 625.00 | 1876.00 | 34941.53 |

* The capital cost has been verified from the audited statements of accounts of NETCL by the Auditor, up to 31.3.2015

**Time Over-run**

17. As per IA dated 29.6.2009, the project was scheduled to be commissioned within 32 months from the date of IA. Accordingly, the schedule date of commissioning works out 29.2.2012, i.e. 1.3.2012. The details of commissioning of the assets is as under:

| Sl. No. | Asset | SCOD | Actual COD | Delay |
|---|---|---|---|---|
| 1 | **Asset-I** | 1.3.2012 | 1.9.2012 | 6 months |
| 2 | **Asset-II** | 1.3.2012 | 1.3.2013 | 12 months |

18. Thus, there is a time over-run of 6 months in case of Asset-I and 12 months in case of Asset-II. The petitioner has submitted that the time over-run is due to delay in grant of forest clearance, delay in holding meeting by Gram Sabha, RoW issues, disturbance in NER states and adverse weather conditions. The detailed reasons submitted by the petitioner for the time over-run are as follows:-

**Asset-I:**

A. Delay in grant of Forest Clearance in the state of Assam and Tripura

i. Out of 679 towers, 207 towers in Tripura and 8 towers in Assam are located on the forest region. Forest clearance was granted as under:

| State | No. of locations | Date of application | Stage 1 Clearance | Stage 2 Clearance |
|---|---|---|---|---|
| Tripura | 204 | 17.8.2006 | 12.10.2009 | 17.8.2010 |
| Tripura* | 3 | 30.8.2011 | 13.1.2012 | 4.5.2012 |
| Assam | 8 | 1.8.2006 | 23.4.2010 | 8.5.2012 |

*The generating company had not finalized the exact location of gantry of switchyard at the time of main application for forest proposal submitted in August, 2006.

ii. The transmission license by the Commission was granted to NETCL on 16.6.2009 and awards were placed for tower contractors in July, 2009 with the completion schedule of November, 2011. Thus, the petitioner had applied for forest clearance almost 3 years before the grant of transmission license. However, the 2nd stage forest clearance was received for 3 nos. of additional forest locations in Tripura on 4.5.2012.

iii. There has been considerable delay by MoEF in granting 2nd stage forest clearance for starting the work in Assam. It has taken more than 2 years to get 2nd stage clearance on 8.5.2012 from 1st stage clearance on 23.4.2010 despite the fact that NETCL has deposited the requisite amount of ₹1305 lakh towards compensatory afforestation on 16.6.2010, carried out compliance of all conditions by 22.7.2010 and vigorous follow up regularly with MoEF. After receipt of 2nd stage clearance, long drawn procedures had to be followed before commencement of felling of trees. Out of the total 679 tower locations, the petitioner completed the work in 668 tower locations including 204 forest locations in Tripura well before 4.5.2012.

iv. Despite rainy season, the petitioner had worked on 11 locations in Tripura and Assam on war footing basis and completed the construction in less than

4 months and commissioned the Palatana-Silchar section on 1.9.2012. Thus, delay in construction and commissioning of this asset is not attributed to the petitioner.

B. Delay in holding meeting by Gram Sabha:

There was delay in holding meeting by Gram Sabha and conclusion of their minutes by the various Gram Sabhas to comply with the Forest Right Act, 2006 to protect the rights of tribal which became effective on 1.8.2008. The said Act was not prevalent at the time of detailed survey in 2005/2006 and initial submission of forest cases from May, 2006 to August, 2006.

C. Right of Way (RoW):

There have been innumerable problems of ROW encountered in the 3 states due to transmission line traversing through private fields, orchard and habitations because of limited corridor available.

D. Disturbance in NER states:

Due to disturbed conditions of law and order in Tripura it was imperative to take the services of Tripura State Rifles (TSR) deployed as escorts for the staff of NETCL and POWERGRID during construction stage. This reduced the working hours per day in Tripura since the working hours available were from 11:00 am to 03:00 pm only. The state of Assam has been the most disturbed amongst the 3 states where the line is traversing through as frequent bandhs, strikes and disturbances took place during construction of lines from 2010 to 2015.

E. Adverse weather conditions and availability of working seasons:

The working season available in the states of Tripura and Assam were effectively 6 months in a year i.e. from October to March. Although the tower packages were awarded in July, 2009 with the completion period of 28 months, the availability of working season for the Palatana-Silchar transmission line was restricted to effectively 14 months only.

**Asset-II:**

A. Delay in grant of forest clearance in the state of Meghalaya: Out of total 581 towers, 465 towers are in Meghalaya and 116 towers in Assam. Forest clearance was granted as under:

| State | No. of locations | Date of application | Stage 1 Clearance | Stage 2 Clearance |
|---|---|---|---|---|
| Meghalaya | 40 | 15.5.2006 | 27.2.2010 | 30.4.2012 |

B. Delay in holding meeting by Gram Sabha:

There was delay in holding meeting by Gram Sabha and conclusion of their minutes by the various Gram Sabhas to comply with the Forest Right Act 2006 to protect the rights of tribal which was not prevalent at the time of detailed survey in 2005/2006 and initial submission of forest cases from May, 2006 to August, 2006.

C. Right of Way (RoW):

There have been innumerable problems of ROW encountered in the 3 states due to transmission line traversing through private fields, orchard and habitations because of limited corridor available.

D. Court Cases:

This section being in series with the Asset-I (Palatana-Silchar) was also made ready on 1.9.2012 except for 1 location no. 417/0 in Ri-bhoi District of Meghalaya due to RoW problem by the land owner Mr. Peter Rynjah (PR). PR objected in June, 2012 for construction of 1 tower at location no. 417/0 in his 8 acre land and conciliatory approach yielded no result and eventually judicial intervention was exercised by petitioner and an SLP was filed on 21.2.2013 in the Hon'ble Supreme Court which, on 26.2.2013, permitted NETCL to construct the tower on location no. 417/0 and charge the transmission line till the appeal is heard on the SLP. One circuit of the Silchar-Byrnihat was charged on 1.3.2013 and COD was declared on 1.3.2013. Therefore, there was no delay on the part of NETCL to commission the 1st circuit of Silchar-Byrnihat section.

E. Disturbance in NER States:

The law and order position was also not very good in the state of Meghalaya wherein numbers of times the contractors/ labour from states other than NER were attacked by locals in their residential camps and were also prevented to work at site. In one of the incidents in November, 2011 one person was killed by people of Meghalaya resulting into other labours fleeing away from Meghalaya for a period of about one month and the work was stopped.

F. Adverse weather conditions and availability of working seasons:

The working season available in the states of Meghalaya was effectively 6 months in a year i.e. from October to March. Although the tower packages were awarded in

July, 2009 with the completion period of 28 months, the availability of working season for the Silchar-Byrnihat T/L sections were 19 months.

19. We have considered the submissions of the petitioner. As per the Investment Approval (IA), the assets were scheduled to be commissioned on 1.3.2012. However, the assets were commissioned on 1.9.2012 and 1.3.2013. Thus, there is a time over-run of 6 months and 12 months in commissioning of Asset-I and Asset-II respectively. The IA was accorded on 29.6.2009 and the transmission licence was granted to the petitioner on 16.7.2009. The petitioner had applied for forest clearance in case of Asset I w.r.t Tripura and Assam in August, 2006 and in case of some of the locations in Tripura on 30.8.2011. On perusal of the documents submitted by the petitioner in respect of delay, it is noted that the petitioner had applied for forest clearance almost 3 years before the grant of transmission license. As per the standard procedure, the forest clearance normally takes about 300 days and accordingly, forest clearance should have been available by August, 2007. The 1st stage clearance by Ministry of Environment and Forest, Government of India (MOEF) was received on 12.10.2009, 27.2.2010 and 23.4.2010 for Tripura, Meghalaya and the second stage forest clearance in case of Assam was received on 8.5.2012 after a period of 69 months and in case of Tripura locations after a period of 48 months and all the other reasons given by the petitioner were subsumed in this period. Therefore, delay is attributable to forest clearance. We are of the view that these factors were beyond the control of the petitioner, therefore, the complete time over-run in both the assets is condoned.

## Treatment of IDC

20. The petitioner has submitted the claim for IDC vide affidavit dated 8.1.2016 and also submitted the revised tariff forms vide affidavit dated 15.7.2016.The IDC has been worked out based on the PFC Domestic loan deployed for both the assets as per the details submitted by the petitioner in its revised tariff forms, on cash basis, assuming that the petitioner has not made any default in the payment of interest. Accordingly, Interest During Construction (IDC) on cash basis up to the actual date of commercial operations in respect of both the assets i.e. Asset-I and Asset-II, has been calculated as ₹16422.01 lakh and ₹10244.54 lakhs. However, the petitioner has claimed IDC of ₹7191.00 lakh and ₹4581.00 lakh for Asset-I and Asset-II respectively. The details submitted by the petitioner in the said affidavits and allowable IDC on cash basis are as follows :-

**(₹ in lakh)**

| IDC | | | | |
|---|---|---|---|---|
| **Asset** | **Claimed on accrual basis** | **Claimed on cash basis up to COD as per Form-9A** | **Balance IDC discharged in 2012-13/ 2013-14** | **Allowed on cash basis up to COD** |
| Asset-I | 7191.00 | 6442.00 | 749.00 | 6442.00 |
| Asset-II | 4581.00 | 4217.48 | 363.52 | 4217.48 |

21. The petitioner has also mentioned that the above mentioned balance IDC of amount ₹749.00 lakh and ₹363.52 lakh has been discharged in case of Asset-I and II for 2012-13 and 2013-14 respectively. This balance IDC is capitalised in the additional capitalisation of the respective assets.

## Treatment of IEDC

22. The petitioner has claimed Incidental Expenditure During Construction (IEDC) of ₹587lakh and ₹308 lakh for Asset I and Asset II respectively. Further, petitioner vide affidavit dated 8.1.2016 has submitted that IEDC discharged up to COD is ₹543.64 lakh. The percentage on Hard Cost as indicated in the Abstract Cost Estimate has been considered as the allowable limit to the IEDC. In the current petition, 5.00% of the Hard Cost is being taken as IEDC limit and the claimed IEDC in both the assets are within the limits and hence being allowed in the tariff calculations.

## Initial spares

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

24. The capital cost, as on COD, after considering the IDC and IEDC on cash basis, considered for the purpose of tariff computation is as follows :

**(₹ in lakh)**

| Asset | Capital cost as on COD | Less: IDC and IEDC claimed | Add: IDC on cash basis allowed | Add: IEDC allowed | Capital cost as on COD considered for tariff |
|---|---|---|---|---|---|
| Asset-I | 59,756.00 | 7778.00 | 6442.00 | 587.00 | 59,007.00 |
| Asset-II | 30,973.00 | 4889.00 | 4217.48 | 308.00 | 30,609.48 |

## Additional capital expenditure

25. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides as under:-

"Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities;
(ii) Works deferred for execution;
(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 8;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
(v) Change in Law:"

26. Clause (11) of Regulation 3 of the 2009 Tariff Regulations defines "cut-off" date as under:-

"cut-off date" means 31$^{st}$March of the year closing after 2 years of the year of commercial operation of the project, and incase the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31$^{st}$ March of the year closing after 3 years of the year of commercial operation".

27. Cut-off date for the Asset I and Asset II is 31.3.2015 and 31.3.2016 respectively.

28. Additional capital expenditure claimed by the petitioner during 2012-13 and 2013-14 falls within the "cut-off" date. Considering the admitted capital cost as on COD and admissible additional capital expenditure, capital cost as on 31.3.2014 works out as follows:-

**(₹ in lakh)**

| Asset | Capital cost allowed as on COD | Claimed Additional Capitalisation during 2012-13 | Claimed Additional Capitalisation during 2013-14 | Total completion cost up to 31.3.2014 |
|---|---|---|---|---|
| Asset-I | 59,007.00 | 934.27 | 1,220.56 | 61,161.83 |
| Asset-II | 30,609.48 | 881.00 | 949.52 | 32,440.00 |

The balance IDC as on COD in respect of both the assets i.e. Asset-I and II, has been added up over and above the claimed additional capital of Asset-I and Asset-II in 2012-13 and 2013-14 respectively, as per the Quarterly Interest payment schedule submitted by the petitioner vide affidavit dated 15.7.2016.

**Debt- equity ratio**

29. Regulation 12 of the 2009 Tariff Regulations provides as under:-

> "12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
>
> Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:
>
> Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.
>
> **Explanation-** The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station or the transmission system.
>
> (2) 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.
>
> (3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

30. The Debt: Equity claimed is 80:20 as on COD and as on 31.3.2014 in case of both Asset I and II. Hence, the same ratio is being allowed as on COD, and as on 31.3.2014. Details of debt-equity in respect of the asset as on the date of commercial operation and as on 31.3.2014 are as follows:-

(₹ in lakh)

| | | Asset I | | Asset II | |
|---|---|---|---|---|---|
| **Particulars** | **%** | **As on COD** | **As on 31.3.2014** | **As on COD** | **As on 31.3.2014** |
| Debt | 80.00 | 47206.95 | 48931.03 | 24488.29 | 25952.75 |
| Equity | 20.00 | 11799.05 | 12229.97 | 6121.19 | 6487.25 |
| Total | 100.00 | 59007.00 | 61161.83 | 30609.48 | 32440.00 |

The petitioner has claimed additional capitalization in debt-equity ratio of 80:20, for both the assets and the same has been accordingly considered.

**Return on Equity (ROE)**

31. Regulation 15 of the 2009 Tariff Regulations provides as under:-

"15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in Appendix-II:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(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 may be, 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 financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations".

32. The petitioner has claimed RoE based on MAT rates. The RoE as per Regulation 15 of the Tariff Regulation, 2009 has been worked out and the actual MAT rates for period 2009-14, in line with the provisions of relevant Finance Acts, have been considered for the truing up purpose in our calculations.

33. The details of RoE calculated are as follows:-

**(₹ in lakh)**

| **Particulars** | **Asset I** | | **Asset II** | |
|---|---|---|---|---|
| | **2012-13** | **2013-14** | **2012-13** | **2013-14** |
| Opening Equity | 11800.04 | 11986.87 | 6121.19 | 6297.37 |
| Addition due to Additional Capitalization | 186.83 | 244.08 | 176.18 | 189.88 |
| Closing Equity | 11986.87 | 12230.96 | 6297.37 | 6487.25 |
| Average Equity | 11893.46 | 12108.91 | 6209.28 | 6392.31 |
| Return on Equity (Base Rate ) | **15.50%** | **15.50%** | **15.50%** | **15.50%** |
| Tax rate for the year 2013-14 (MAT) | 20.01% | 20.96% | 20.01% | 20.96% |
| Rate of Return on Equity (Pre Tax ) | 19.377% | 19.610% | 19.377% | 19.610% |
| **Return on Equity (Pre Tax)** | **1344.35** | **2374.56** | **100.26** | **1253.53** |

## <u>Interest on Loan (IOL)</u>

34. Regulation 16 of the 2009 Tariff Regulations provides as under:-

"16. **Interest on loan capital**(1)The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

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.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

35. In the calculations, the interest on loan has been worked out as detailed below:-

i. Gross amount of loan, repayment of installments, rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.

ii. The repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.

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

36. Accordingly, the interest on loan has been calculated on the basis of prevailing rate of interest of actual loan available as on COD, for both the assets. As per the Loan and Interest payment details submitted by the petitioner vide affidavit dated 15.7.2016, the weighted average rate of interest prevailing as on COD for Asset-I is considered as 11.84% for 2012-13, whereas the petitioner had claimed 12.17%.

37. Detailed calculations in support of the weighted average rates of interest have been given in Annexure I and II to this order.

38. Based on the above, interest on loan has been calculated as given below:-

**(₹ in lakh)**

| Particulars | Asset I | | Asset II | |
|---|---|---|---|---|
| | **2012-13** | **2013-14** | **2012-13** | **2013-14** |
| Gross Normative Loan | 47206.96 | 47954.40 | 24488.29 | 25193.11 |
| Cumulative Repayment upto Previous Year | 0.00 | 1831.80 | 0.00 | 136.62 |
| Net Loan-Opening | 47206.96 | 46122.59 | 24488.29 | 25056.49 |
| Addition due to Additional capitalisation | 747.44 | 976.48 | 704.82 | 759.64 |
| Repayment during the year | 1831.80 | 3197.12 | 136.62 | 1687.76 |
| Net Loan-Closing | 46122.59 | 43901.95 | 25056.49 | 24128.36 |
| Average Loan | 46664.78 | 45012.27 | 24772.39 | 24592.43 |
| Weighted Average Rate of Interest on Loan | 11.840% | 12.480% | 12.17% | 12.48% |
| Interest | 3222.98 | 5617.53 | 251.23 | 3069.13 |

## Depreciation

39. Regulation 17 of the 2009 Tariff Regulations provides as under:-

"17. **Depreciation**(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(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.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) 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."

40. The petitioner vide affidavit dated 15.7.2016, has claimed the depreciation by considering the Opening Gross Block of capital cost as on 31.3.2013 instead of as on COD in the respective assets. This has been followed in the calculation of depreciation in case of both of the assets. In case of Asset-I, the petitioner has also included the capital costs of 'Furniture & Fixture', 'Office Equipment' and 'Computer Software' with their respective depreciation rates, for the purpose of depreciation calculation. Therefore, there are differences in the calculation of weighted average rate of depreciation in both the assets, which resulted in differences in the depreciation claimed and depreciation worked out.

41. Depreciation has been worked out on the basis of capital expenditure as on the date of commercial operation and additional capital expenditure incurred/projected to be incurred thereafter, wherein depreciation for the first year has been calculated on pro-rata basis for the part of year. Based on the above, the depreciation has been considered as given overleaf:-

(₹ in lakh)

| Particulars | Asset I | | Asset II | |
|---|---|---|---|---|
| | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| Opening Gross Block | 59007.00 | 59941.27 | 30609.48 | 31490.48 |
| Addition during 2009-14 due to Projected Additional Capitalisation | 934.27 | 1220.56 | 881.00 | 949.52 |
| Closing Gross Block | 59941.27 | 61161.83 | 31490.48 | 32440.00 |
| Average Gross Block | 59474.14 | 60551.55 | 31049.98 | 31965.24 |
| Rate of Depreciation | 5.2800% | 5.2800% | 5.2800% | 5.2800% |
| Depreciable Value | 53526.72 | 54496.40 | 27944.98 | 28768.72 |
| Remaining Depreciable Value | 53526.72 | 52664.59 | 27944.98 | 28632.10 |
| Depreciation | 1831.80 | 3197.12 | 136.62 | 1687.76 |

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

42. Clause (g) of regulation 19 of the 2009 Tariff Regulations prescribes the norms for O&M Expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

(₹ in lakh)

| Element | 2012-13 | 2013-14 |
|---|---|---|
| 400 kV Double Circuit (Twin & Triple Conductor) | 0.741 | 0.783 |

43. The details of the O&M Expenses claimed by the petitioner and allowed are given in below:-

(₹ in lakh)

| Asset | No. of km | O&M Expenses claimed by the petitioner | | O&M Expenses allowed | |
|---|---|---|---|---|---|
| | | 2012-13 | 2013-14 | 2012-13 | 2013-14 |
| Asset I | 247.39 | 106.93 | 193.71 | 106.93 | 193.706 |
| Asset II | 214.41 | 13.24 | 167.88 | 6.620 | 83.942 |

Since, Asset-II consists of one out of the two circuits of 400 kV Silchar-Byrnihat line constructed on double circuit towers. Accordingly, to calculate O&M expenses for

Asset-II, normative O&M expense as provided in the 2009 Tariff Regulations in respect of Double Circuit (Twin & Triple Conductor) has been halved.

**Interest on working capital**

44. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

**(i) Receivables**

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

**(ii) Maintenance spares**

Regulation 18(1)(c)(ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses from 1.4.2009. The value of maintenance spares has accordingly been worked out.

**(iii) O & M Expenses**

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

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

The SBI Base rate (10.00%) as on 1.4.2012 plus 350 BPS i.e. 13.50% has been considered as the rate of interest on working capital.

45. Necessary computations in support of interest on working capital are as follows:-

**(₹ in lakh)**

| **Particulars** | **Asset I** | | **Asset II** | |
|---|---|---|---|---|
| | **2012-13** | **2013-14** | **2012-13** | **2013-14** |
| Maintenance Spares | 27.50 | 29.06 | 11.92 | 12.59 |
| O & M expenses | 15.28 | 16.14 | 6.62 | 7.00 |
| Receivables | 1902.65 | 1941.86 | 1012.68 | 1039.56 |
| Total | 1945.42 | 1987.06 | 1031.21 | 1059.15 |
| Interest | 153.20 | 268.25 | 11.60 | 142.98 |

**Transmission charges**

46. The transmission charges being allowed for the assets are as follows:-

**(₹ in lakh)**

| **Particulars** | **Asset I** | | **Asset II** | |
|---|---|---|---|---|
| | **2012-13** | **2013-14** | **2012-13** | **2013-14** |
| Depreciation | 1831.80 | 3197.12 | 136.62 | 1687.76 |
| Interest on Loan | 3222.98 | 5617.53 | 251.23 | 3069.13 |
| Return on Equity | 1344.35 | 2374.56 | 100.26 | 1253.53 |
| Interest on Working Capital | 153.20 | 268.25 | 11.60 | 142.98 |
| O & M Expenses | 106.93 | 193.71 | 6.62 | 83.94 |
| Total | **6659.27** | **11651.17** | **506.34** | **6237.36** |

**Filing fee and the publication expenses**

47. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The petitioner shall be entitled for reimbursement of the publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 42 of the 2009 Tariff Regulations.

**Sharing of Transmission Charges**

48. 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.

49. This order disposes of Petition No. 233/TT/2015.

| (Dr. M. K. Iyer) | (A.S. Bakshi) | (A.K. Singhal) | (Gireesh B. Pradhan) |
|---|---|---|---|
| Member | Member | Member | Chairperson |

## Annexure I

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN OF ASSET-I**

**(₹ in lakh)**

| | **Details of Loan** | **2012-13** | **2013-14** |
|---|---|---|---|
| | | | |
| **1** | **PFC Domestic** | | |
| | Gross loan opening | 47804.80 | **47953.02** |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | **0.00** |
| | Net Loan-Opening | 47804.80 | 47953.02 |
| | Additions during the year | 148.22 | 976.44 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 47953.02 | 48929.46 |
| | Average Loan | 47878.91 | 48441.24 |
| | Rate of Interest | 11.84% | 12.48% |
| | Interest | **5668.86** | **6045.47** |
| | Rep Schedule | 60 Quarterly instalments from 15.10.2015 | |
| | | | |
| | **Total Loan** | | |
| | Gross loan opening | 47804.80 | 47953.02 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 47804.80 | 47953.02 |
| | Additions during the year | 148.22 | 976.44 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 47953.02 | 48929.46 |
| | Average Loan | 47878.91 | 48441.24 |
| | Rate of Interest | **11.8400%** | **12.4800%** |
| | **Interest** | 5668.86 | 6045.47 |

# Annexure II

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN OF ASSET-II**

**(₹ in lakh)**

| | **Details of Loan** | **2012-13** | **2013-14** |
|---|---|---|---|
| | | | |
| **1** | **PFC Domestic** | | |
| | Gross loan opening | 24778.40 | **25482.82** |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | **0.00** |
| | Net Loan-Opening | 24778.40 | 25482.82 |
| | Additions during the year | 704.42 | 468.80 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 25482.82 | 25951.62 |
| | Average Loan | 25130.61 | 25717.22 |
| | Rate of Interest | 12.17% | 12.48% |
| | Interest | **3058.40** | **3209.51** |
| | Rep Schedule | 60 Quarterly instalments from 15.10.2015 | |
| | | | |
| | **Total Loan** | | |
| | Gross loan opening | 24778.40 | 25482.82 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 |
| | Net Loan-Opening | 24778.40 | 25482.82 |
| | Additions during the year | 704.42 | 468.80 |
| | Repayment during the year | 0.00 | 0.00 |
| | Net Loan-Closing | 25482.82 | 25951.62 |
| | Average Loan | 25130.61 | 25717.22 |
| | Rate of Interest | **12.17%** | **12.48%** |
| | **Interest** | 3058.40 | 3209.51 |