CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 305/TT/2013

Coram:

Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member

Date of Hearing: 03.03.2015
Date of Order : 17.03.2016

In the matter of:

Approval of transmission tariff of 765/400 kV, 1500 MVA ICT-2 along with associated bays at Dharmjaygarh Sub-station under Supplementary Transmission Scheme of upcoming IPP Projects in Chhattisgarh in Western Region for 2014-19tariff period under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014

And in the matter of

Power Grid Corporation of India Limited,
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001 **….Petitioner**

Vs

1. Chhatissgarh State Electricity Board,
   P.O Sunder Nagar, Dangnia, Raipur,
   Chhatisgaarh-492013

2. Madhya Pradesh Power Management Company Ltd.,
   Shakti Bhawan, Rampur
   Jabalpur-482 008

3. Maharashtra State Electricity Distribution Company Limited,
   Prakashgad, 4th floor
   Andehri (East), Mumbai-400 052

4. Gujarat Urja Vikas Nigam Ltd.,
   Sardar Patel Vidyut Bhawan,
   Race Course Road, Vadodara-390 007

5. Electricity Department, Government of Goa,
   Vidyut Bhawan, Panaji,
   Near Mandvi Hotel, Goa-403 001

6. Electricity Department,
   Administration of Daman and Diu,
   Daman-396210

7. Electricity Department,
   Administration of Dadra Nagar Haveli,
   U.T. Silvassa-396 230

8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.,
   3/54, Press Complex, Agra-Bombay Road
   Indore-452 008 ……**Respondents**

For Petitioner : Shri Prashant Sharma, PGCIL
Shri Rakesh Prasad, PGCIL
Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd. (PGCIL) seeking tariff for 765/400 kV 1500 MVA ICT-2 along with associated bays at Dharmjaygarh Sub-station under Supplementary Transmission Scheme of upcoming IPP Projects in Chhattisgarh in Western Region for tariff block 2009-14 period in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter "the 2009 Tariff Regulations").

2. The administrative approval and expenditure sanction to the transmission project "Supplementary Transmission Scheme of upcoming IPP projects in Chhattisgarh" was accorded by the Board of Directors of the petitioner company vide

memorandum C/CP/WR-241 dated 22.3.2012 at an estimated cost of ₹13219 lakh including an IDC of ₹716 lakh (Based on 4th Quarter, 2011 price level). As per the investment approval, the transmission asset was scheduled to be commissioned within 24 months from the date of investment approval, i.e. by 21.3.2014.

3. The scope of work covered under "Supplementary Transmission Scheme of upcoming IPP Projects in Chhattiasgarh" in Western Region is as follows:-

Sub-station

Extension of 765/400 kV Dharamjaygarh/Korba Pooling station

765 kV

a) 1500 MVA, 765/400 kV ICT - 2 no.
b) Transformer bays - 2 no.

400 kV

Transformer bays - 2 no.

4. The scope of the above scheme was discussed and agreed in the 36th Standing Committee Meeting of Western Region Constituents, held on 29.8.2013. The instant petition covers one single asset i.e. 765/400 kV 1x1500 MVA ICT-2, at Dharmjayagarh Sub-station along with associated bays. The instant asset was anticipated to be commissioned on 21.3.2014 and accordingly, the petitioner claimed the tariff for the instant asset under the 2009 Tariff Regulations. The provisional tariff was approved vide order dated 16.12.2013, subject to adjustment as per Regulation 5 (4) of the 2009 Tariff Regulations.

5. However, the petitioner vide affidavit dated 12.11.2014 has submitted that the instant asset was commissioned on 19.6.2014 and prayed for grant of annual transmission charges for the instant asset under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter "the 2014 Tariff Regulations"). The petitioner has filed the revised tariff forms in accordance with 2014 Tariff Regulations vide affidavit dated 24.11.2015.

6. This order has been issued after considering the petitioner's affidavits dated 12.11.2014, 27.2.2015, 5.6.2015 and 24.11.2015.

7. The petitioner has claimed the following transmission charges for the instant asset:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	330.55	458.66	473.67	473.67	473.67
Interest on Loan	429.53	562.22	536.67	488.72	443.35
Return on equity	389.75	544.01	562.55	562.55	562.55
Interest on Working Capital	32.73	44.28	44.74	43.92	43.17
O & M Expenses	113.36	149.52	154.49	159.62	164.91
Total	1295.92	1758.69	1772.12	1728.48	1687.65

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.71	22.43	23.17	23.94	24.74
O & M expenses	12.06	12.46	12.87	13.30	13.74
Receivables	275.73	293.12	295.35	288.08	281.28
Total	309.50	328.01	331.39	325.32	319.76
Interest	32.73	44.28	44.74	43.92	43.17
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%

9. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act.

10. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003. Replies have been filed by M. P. Power Management Company Limited, Respondent No.2, vide affidavit dated 12.12.2013 and Maharashtra State Electricity Distribution Company Limited (MSEDCL), Respondent No. 3, vide affidavit dated 4.1.2014. MPPMCL had submitted that the petition should be heard after the asset had been commissioned. MSEDCL has raised the issues regarding rate of interest on loan, reimbursement of expenditures, license fee and cost variation between approved FR cost and actual cost. The objections raised by the MSEDCL in his reply are addressed in the relevant paragraphs of this order.

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. Since the asset was commissioned during 2014-19 period, the tariff has been determined in accordance with the 2014 Tariff Regulations.

Capital cost

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

"The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;

(c) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation of these regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;

(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and

(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD."

13. The petitioner vide affidavit dated 24.11.2015, has submitted the capital cost incurred up to COD and projected to be incurred during 2014-15, 2015-16 and 2016-17 duly certified by Auditor vide certificate dated 14.10.2015 and the Revised Cost Estimated (RCE). The details of the capital cost claimed as on COD(s) and additional capital expenditure incurred or to be incurred is as follows:-

(₹ in lakh)

Apportioned approved cost	Revised apportioned approved cost (RCE)	Cost on COD	Projected additional capital expenditure			Total Estimated cost
			2014-15	2015-16	2016-17	
7758.36	9339.48	7805.29	292.46	593.66	535.26	9226.67

Time over-run

14. As per the investment approval, the instant asset was scheduled to be commissioned within 24 months from the date of investment approval (i.e. 22.3.2012). The scheduled commissioning of the asset works out to 21.3.2014 against which the asset was commissioned on 19.6.2014. Accordingly, there is delay of 2 months and 29 days in commissioning the asset.

15. The petitioner vide affidavit dated 12.11.2014 has submitted that the main reason for time over-run is withdrawal of lowest bidder and re-tendering of the package. There was a delay of around 10 months in award due to withdrawal of lowest bidder and retendering the package. The withdrawal of the lowest bidder is a force majeure condition due to unexpected events and the delay in execution of the project is beyond the control of the petitioner.

16. The petitioner was directed to submit the certificate of trial operation, reason for time over-run, price quoted by the lowest bidder and time taken in retendering process along with the date and activities. In response, the petitioner vide affidavit dated 5.6.2015 has submitted the date of submission and opening of the bids. The petitioner has further submitted that the lowest bidder M/s Siemens Ltd sought increase in bid prices on pretext of change in taxes/duties in Union Budget 2012-13, which was not tenable as per terms of bidding documents and their letter claiming compensation and consequent increase in bid prices tantamount to withdrawal of their bid. The bidding process was annulled and fresh bid was invited in line with CVC's provision, which states that there should be re-tendering in a transparent and fair manner in such

situation where lowest bidder withdraws their offer before the work order is placed. The price quoted by the lowest bidder was EURO 45,83,963+INR 212,86,43,718 (excluding taxes and duties). The NIT was published on 6.6.2012 and after due process LOA was issued on 11.1.2013 and it took about 7 months in the process. Further, the petitioner has submitted a copy of letter of M/s Siemens dated 10.4.2012 and extracts of the letter are given below:-

> "1. As per recent budget there is significant increase in excise duty, CVD and service tax which has substantial impact on cost of finished goods (bought out) directly dispatched to site and other services such as civil, installation, testing, commissioning, transportation etc.
>
> This is an act of government on which we have no control. In a reasonable way, we had costed out our bid based on taxes and duties 7 days prior to bid submission as per your Condition GCC clause no. 10.7. The variation after 7 days is stipulated to be compensated. Under clause 10.7 compensation on raw material and sub components are not allowed.
>
> However, the increase is very substantial in nature in all brought out finished goods and services making tender prices unviable to execute. We therefore, need a compensation for this increase to be included in the control price.
>
> 2. Similar situation occurred in December 2008 when taxes and duties were reduced on submitted bids and PGCIL had reduced the prices of bought out finished goods and services on the offered L1 value.
> We are very much interested in your esteemed contract, but due to this act of government the quoted price is unviable and request you to increase the price of contract."

17. We have considered the reasons and documents submitted by the petitioner regarding time over-run. It is observed that Siemens in its letter had requested for compensation for the increase in excise duty, CVD and service tax to be included in the control price. The petitioner was asked to submit detailed reason for withdrawal by lowest bidder. The petitioner has submitted that the bidding process was annulled and fresh bids were invited in line with the CVC guidelines since the bidder asked for adjustment of the impact of increase in excise duty, CVD and service tax. It is however

noticed from the letter of M/s Siemens dated 10.4.2012 that in the past in December 2008 when taxes and duties were reduced on submitted bids, the petitioner had reduced the prices of bought out finished goods and services on the offered L1 value and awarded the contract. The petitioner has not submitted the copy of the tender documents containing the terms and conditions for submission of the bids by the contractor. The petitioner has not submitted the copy of the CVC guidelines under which the petitioner cancelled the bidding process and invited the fresh bid which involved a period of additional 7 months. Despite the rebidding, the petitioner has achieved the COD with a time over-run of 2 months and 29 days. In the absence of the relevant documents, it is difficult to take a view with regard to the time over-run of 2 months 29 days. Since it is a tariff petition filed in 2013, we do not intend to delay its disposal by calling for fresh information. We are not allowing the time over-run of 2 months 29 days on account of the rebidding process. However, liberty is granted to the petitioner to submit all relevant documents including CVC Guidelines in support of its claim for IDC and IEDC for the 2 months 29 days.

Cost over-run

18. The total estimated completion cost of the project as per the petition, is ₹9226.67 lakh against approved apportioned FR cost of ₹7758.36 lakh. Accordingly, there is cost over-run of about 18.92%. The reason for cost over-run as per Form 5B is price variation based on rates received in competitive bidding. The petitioner was directed vide letter dated 8.1.2014 to submit the information regarding documentary evidence for cost over-run of about 18.92% and justification for cost variation under

certain heads as per Form 5B.In response, the petitioner vide affidavit dated 12.11.2014 has submitted as under:-

(a) As per revised Form-5, the major variation in cost is pertaining to transformer. At the time of preparation of FR, the inclusive cost of transformer is considered based on the average of offshore and onshore supply. However, the award was placed on the consideration of offshore which included exchange rate variation as well as custom duty. Further, because of the time gap in preparation of FR and LOA there is a price variation in supply and erection;

(b) In FR, the cost of equipment structure, civil works including building area, and other auxiliary items like fire fighting system, lighting, control cables, etc. are considered on normative basis as lump sum amount since actual BOQ was not available at the time of preparation of FR in absence of detailed engineering. Subsequently, the final cost is based on actual BOQ requirement of all items including spares based on the actual site requirement and this resulted in decrease/increase in cost;

(c) The cost variation for foundation of structure and miscellaneous civil works against the FR cost is on account of the price variation, higher bidding price vis-a-vis FR estimate and also on the actual requirement at the site;

(d) At execution stage the detailed quantity was engineered as per actual requirement based upon the topology, connection arrangement, protection scheme, future bay extensions etc. of site which led to change in quantity of Bus bars/Conductors/Insulators, Structure for switchyard, Auxiliary system;

(e) In case of outdoor lighting as per the various guidelines and MOU target to save power “Solar based Street lighting with LED fittings and solar panels” were used instead of conventional fittings, leading to slight increase in the executed cost. The LED lighting would cost lower in long run as it has longer life and low consumption of power than the of conventional street lightings (Sodium vapour); and

(f) Variation in cost of individual item in sub-station packages. Multiple bids were received from various vendors through an International Open Competitive Bidding and the L1 bidder was awarded for the sub-station package as a whole. The item wise comparison of different items under one package with respective cost estimates does not give appropriate results since the actual prices of various items under sub-station package solely depend on how the bifurcation of the total price has been made by the vendor while quoting the prices for different items under complete package. The rates of individual items of vendors are requested, only for the purpose of on account payment and not for any comparison.

19. The petitioner vide affidavit dated 27.2.2015 has submitted the Revised Cost Estimate (RCE) of supplementary transmission system of up-coming IPP projects in

Chhattisgarh approved by Board of Directors on 9.12.2014. The details are as follows:-

(₹ in lakh)

Apportioned approved cost as per FR	**Apportioned approved cost as per RCE**	**Estimated completion cost**
7758.36	9339.48	9226.67

20. We have considered the submissions of the petitioner and documents available on record. The completion cost of the instant asset is more than the FR cost, i.e. ₹9263.29 lakh as against ₹7758.36 lakh. The petitioner has also placed on record the copy of the RCE approving the cost of ₹9263.29 lakh. The petitioner in its affidavit dated 12.11.2014 has given the following reasons for cost variation:

(a) Award was placed on the basis of offshore cost including exchange variation and customs duty whereas the FR cost was based on average of onshore and offshore supplies.

(b) There is price variation in supply and erection on account of time gap in preparation of FR and issue of LOA.

(c) In FR, the cost of equipment structure, civil works and other auxiliary items are considered on normative basis whereas final cost is based on BOQ requirement.

(d) The cost variation for foundation of structure and miscellaneous civil works is on account of price variation between the bidding cost and FR estimates.

21. In our view, the explanations of the petitioner are couched in general terms and have not explained the reasons for cost variation of 18.92% which has occurred within a span of less than one year (investment approval on 22.3.2012 as against the award of LOA on 11.1.2013). It is noticed that as on COD, the actual cost was ₹7805.29 lakh as against the apportioned approved cost of ₹7758.36 lakh. The petitioner has claimed additional capital expenditure for the years 2014-15, 2015-16 and 2016-17 as ₹292.46 lakh, ₹593.66 lakh and Rs.535.26 lakh respectively. The petitioner has not submitted the break-up of the additional expenditure item-wise, in the absence of which it is not possible to carry out prudence check of cost variation. Moreover, there may be cost variation on account of the time over-run for re-bidding. We direct the petitioner to give justifications for the variation in capital cost including additional capital expenditure item-wise and the cost variation attributable to rebidding at the time of truing up. In this order, we are determining the tariff on the basis of original apportioned approved cost.

Treatment of IDC and IEDC

22. The petitioner was directed to submit computation of actual IDC on cash basis along with editable soft copy of computation in excel format. In response, the petitioner vide affidavit dated 5.6.2015 submitted IDC of ₹359.33 lakh and IEDC of ₹3.46 lakh as per Auditor Certificate date 22.9.2014 as on COD. Later, the petitioner vide affidavit dated 24.11.2015 has submitted the revised Auditor Certificate with revised capital cost and additional capital expenditure. The petitioner has claimed IDC of ₹381.65 lakh as on COD without any computation. The petitioner has also submitted that against the IDC claim of ₹381.65 lakh, IDC of ₹369.23 lakh has been

discharged up to COD.

23. The time over-run of 2 months and 29 days has not been condoned. Accordingly, the IDC for the said period has also not been allowed. As such, IDC of ₹152.36 lakh has been allowed up to schedule COD on cash basis. IDC discharged after scheduled COD will be allowed at the time of truing up on the submission of adequate information along with computation in soft copy in excel format.

24. The petitioner has claimed IEDC of ₹18.39 lakh as per Auditor Certificate dated 14.10.2015 submitted vide affidavit dated 24.11.2015. As the time over-run of 2 months and 29 days has not been condoned, the IEDC claim for the time over-run period has also been disallowed.

Treatment of initial spares

25. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

> **“13. Initial Spares**
>
> Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:
>
> (d) Transmission system
>
> (i) Transmission line - 1.00%
>
> (ii) Transmission Sub-station (Green Field) - 4.00%
>
> (iii) Transmission Sub-station (Brown Field) - 6.00%
>
> (iv) Series Compensation devices and HVDC Station - 4.00%
>
> (v) Gas Insulated Sub-station (GIS)-5.00%
> (vi) Communication system-3.5%

Provided that:
(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:
(ii) --------

(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break-up of head wise IDC & IEDC in its tariff application.

26. The petitioner vide affidavit dated 24.11.2015 has claimed initial spares of ₹153.85 lakh for sub–station which is within the specified limit as per 2014 Tariff Regulations. Accordingly, the same has been allowed.

Capital cost as on COD

27. Details of the capital cost considered as on COD after making the necessary adjustment in respect capital expenditure of IDC and IEDC is as follows:-

(₹in lakh)

Particulars	Capital cost as on COD as per Auditor's certificate dated 14.10.2015	Admissible capital cost as on COD after restricting IDC/IEDC for time over-run
Freehold Land	0.00	0.00
Leasehold Land	0.00	0.00
Building & Other Civil Works	420.31	406.62
Transmission Line	0.00	0.00
Sub-Station Equipments	7384.98	7144.40
PLCC	0.00	0.00
Total	**7805.29**	**7551.02**

Projected additional capital expenditure

28. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

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

(i) Undischarged liabilities recognised to be payable at a future date;
(ii) Works deferred for execution;
(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
(v) Change in Law or compliance of any existing law:"

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

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

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

30. Detail of the additional capital expenditure claimed from COD to 31.3.2019 as per Auditor certificate dated 14.10.2015 submitted vide affidavit dated 24.11.2015 for the assets are given hereunder:-

(₹ in lakh)

Particular	2014-15	2015-16	2016-17
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	184.53	77.01	73.12
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	107.93	516.65	462.14
PLCC	0.00	0.00	0.00
Total	**292.46**	**593.66**	**535.26**

31. MSEDCL has submitted that petitioner has claimed total additional capital expenditure of ₹5196.47 lakh under Regulation 9(1) of 2009 Tariff Regulations. There is huge variation in capital cost as compared to original estimates as per Form 5B.

32. The capital cost has been restricted to original approved capital cost hence, the additional capital expenditure has been considered up to restricted cost as detailed below:-

(₹ in lakh)

Particulars	**2014-15**	**2015-16**	**2016-17**
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	48.96	0.00	0.00
Transmission Line	0.00	0.00	0.00
Sub-Station Equipments	158.98	0.00	0.00
PLCC	0.00	0.00	0.00
Total	**207.94**	**0.00**	**0.00**

Debt- equity ratio

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

> "(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
>
> Provided that:
>
> i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
>
> ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

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

"(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation"

34. Details of debt-equity in respect of the asset as on the date of commercial operation are as follows:-

(₹in lakh)

Particulars	**%**	**As on COD**	**Additional capital expenditure**	**As on 31.3.2019**
Debt	70.00	5285.71	145.56	5431.27
Equity	30.00	2265.31	62.38	2327.69
Total	**100.00**	**7551.02**	**207.94**	**7758.96**

Return on equity

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

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

(i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers."

"25. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".

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

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

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

36. The petitioner has claimed additional RoE of 0.5% for timely completion of the instant assets. As per the investment approval, 2 Nos. 1500MVA ICTs were to be installed at Dharamjaygarh/Korba pooling station. However, it is observed that only 1 no. ICT has been installed at Dharmjaygarh/Korba pooling station. The complete scope as per IA has not been completed within stipulated time. Further, the petitioner has not submitted the certificate from RPC/NRPC certifying that the commissioning of the instant asset will benefit the system operation in the regional/national grid as required under proviso (iii) to clause (2) of Regulation 24 of the 2014 Tariff Regulations. Therefore, the petitioner's prayer for additional RoE of 0.5% is not allowed.

37. Based on the above, the return on equity considered are as follows:-

(₹ in lakh)

Particulars	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	2265.31	2327.69	2327.69	2327.69	2327.69
Addition due to Additional Capitalisation	62.38	0.00	0.00	0.00	0.00
Closing Equity	2327.69	2327.69	2327.69	2327.69	2327.69
Average Equity	2296.50	2327.69	2327.69	2327.69	2327.69
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	352.87	456.46	456.46	456.46	456.46

38. The petitioner has submitted that it may be allowed to recover the shortfall or refund the excess Annual Fixed Charges, on account of return on equity due to change in applicable Minimum Alternate Tax/Corporate Income Tax rate as per the Income Tax Act, 1961 of the respective financial year directly from the beneficiaries

without making any application before the Commission under Regulation 25(2) of the 2009 Tariff Regulations. MSEDCL has submitted that Return on Equity may be allowed in such a way that it avoids unnecessary burden on the beneficiaries and ultimately on end consumers. We would like to clarify that the petitioner is allowed to recover the shortfall or refund the excess annual transmission charges under Regulation 25(2) of the 2014 Tariff Regulations. Accordingly, RoE has been computed @ 19.610% p.a on average equity as per Regulation 25(2) of the 2009 Tariff Regulations

Interest on loan

39. Regulation 26 of the 2014 Tariff Regulations provides as under:-

> "(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.
>
> (2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.
>
> (3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.
>
> (4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
>
> (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:
>
> Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest."

40. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner's entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per petition;

(b) The repayment for the tariff period 2014-19shall deemed to be equal to the depreciation allowed for that period;

(c) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed;

(d) 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; and

(e) As per Regulation 26(5) only actual loans have been considered for computation of weighted average rate of interest.

41. MSEDCL has requested to conduct prudence check on loans availed by the petitioner and the average interest rate considered for calculation of interest on long

term basis. We would like to clarify that as formulated under Regulation 26(5) actual loans have been considered for computation of weighted average rate of interest.

42. Detailed calculations in support of the weighted average rates of interest have been given in Annexure to this order.

43. Based on the above, interest on loan has been calculated are given as follows:-

(₹ in lakh)

Particular	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	5285.71	5431.27	5431.27	5431.27	5431.27
Cumulative Repayment up to Previous year	0.00	310.15	710.98	1111.82	1512.65
Net Loan-Opening	5285.71	5121.12	4720.29	4319.45	3918.62
Addition due to Additional Capitalization	145.56	0.00	0.00	0.00	0.00
Repayment during the year	310.15	400.83	400.83	400.83	400.83
Net Loan-Closing	5121.12	4720.29	4319.45	3918.62	3517.78
Average Loan	5203.42	4920.71	4519.87	4119.04	3718.20
Weighted Avg Rate of Interest on Loan	9.82%	9.79%	9.78%	9.75%	9.77%
Interest	400.20	481.98	442.11	401.69	363.28

Depreciation

44. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis

(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."

45. The instant transmission assets were put under commercial operation during 2014-15. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

46. Based on the above, the depreciation has been considered are given as follows:-

(₹ in lakh)

Particulars	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Gross Block	7551.02	7758.96	7758.96	7758.96	7758.96
Addition during 2009-14 due to Projected Additional Capitalisation	207.94	0.00	0.00	0.00	0.00
Closing Gross Block	7758.96	7758.96	7758.96	7758.96	7758.96
Average Gross Block	7654.99	7758.96	7758.96	7758.96	7758.96
Rate of Depreciation	5.1707%	5.1661%	5.1661%	5.1661%	5.1661%
Depreciable Value	6889.49	6983.06	6983.06	6983.06	6983.06
Remaining Depreciable Value	6889.49	6672.91	6272.08	5871.24	5470.41
Depreciation	310.15	400.83	400.83	400.83	400.83

Operation &Maintenance Expenses (O&M Expenses)

47. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

Element	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV bay (₹ in lakh/ bay)	84.42	87.22	90.12	93.11	96.20
400 kV bay (₹ in lakh/ bay)	60.30	62.30	64.37	66.51	68.71

48. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner's entitlement to O&M Expenses have been worked out as given hereunder:-

Element	2014-15	2015-16	2016-17	2017-18	2018-19
One no 765 kV bay for ICT-2 at Dharamjaygarh/Korba Pooling Station. (COD: 19.6.2014)	66.12	87.22	90.12	93.11	96.20
One no 400 kV bay for ICT-2 at Dharamjaygarh/Korba Pooling Station. (COD: 19.6.2014)	47.22	62.30	64.37	66.51	68.71

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

Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

50. 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.

Interest on working capital

51. 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;"

52. 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
Maintenance Spares	21.70	22.43	23.17	23.94	24.74
O & M expenses	12.06	12.46	12.87	13.30	13.74
Receivables	256.80	254.65	248.72	242.73	237.11
Total	290.56	289.53	284.77	279.98	275.59
Interest	30.74	39.09	38.44	37.80	37.21

Transmission charges

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	310.15	400.83	400.83	400.83	400.83
Interest on Loan	400.20	481.98	442.11	401.69	363.28
Return on Equity	352.87	456.46	456.46	456.46	456.46
Interest on Working Capital	30.74	39.09	38.44	37.80	37.21
O & M Expenses	113.36	149.52	154.49	159.62	164.91
Total	1207.32	1527.88	1492.34	1456.40	1422.69

Filing fee and the publication expenses

54. 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. MSEDCL submitted that the issue of filing fee has been taken up with the Commission against its order dated 20.8.2010 in Petition No. 70/2010 and as such the claim should not be considered by the Commission.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

55. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. MSEDCL have submitted that the Commission may pass such orders in respect to petitioner's request for reimbursement for licence fee, as it thinks just and proper to avoid unnecessary burden on beneficiaries and ultimately on end consumers.The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service tax

56. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. MSEDCL has submitted that as the petitioner itself submitted that service tax on transmission has been put in the negative list it will be too early to make any comment on such an issue. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Sharing of Transmission Charges

57. 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.

58. This order disposes of Petition No. 305/TT/2013.

-sd-	**-sd-**
(A.S. Bakshi)	**(A.K. Singhal)**
Member	**Member**

Annexure I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	**Bond XLIV**					
	Gross loan opening	**1376.50**	**1376.50**	**1376.50**	**1376.50**	**1376.50**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	1376.50	1376.50	1376.50	1376.50	1376.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00			458.83
	Net Loan-Closing	1376.50	1376.50	1376.50	1376.50	917.67
	Average Loan	1376.50	1376.50	1376.50	1376.50	1147.09
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%
	Interest	119.76	119.76	119.76	119.76	99.80
2	**Bond XLV**					
	Gross loan opening	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**8.33**
	Net Loan-Opening	100.00	100.00	100.00	100.00	91.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	8.33	8.33
	Net Loan-Closing	100.00	100.00	100.00	91.67	83.34
	Average Loan	100.00	100.00	100.00	95.84	87.51
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	9.65	9.65	9.65	9.25	8.44
3	**SBI**					
	Gross loan opening	**250.24**	**250.24**	**250.24**	**250.24**	**250.24**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	250.24	250.24	250.24	250.24	250.24
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	250.24	250.24	250.24	250.24	250.24
	Average Loan	250.24	250.24	250.24	250.24	250.24
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	25.65	25.65	25.65	25.65	25.65
13	**SBI loan 21.3.2012**					
	Gross loan opening	**3593.02**	**3593.02**	**3593.02**	**3593.02**	**3593.02**
	Cumulative Repayment uptoDOCO/previous year	**0.00**	**0.00**	**0.00**	**326.64**	**653.28**

	Net Loan-Opening	3593.02	3593.02	3593.02	3266.38	2939.74
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	326.64	326.64	326.64
	Net Loan-Closing	3593.02	3593.02	3266.38	2939.74	2613.10
	Average Loan	3593.02	3593.02	3429.70	3103.06	2776.42
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	368.28	368.28	351.54	318.06	284.58
	Bond XLVI ADDCAP FOR ADD CAP 14-15					
	Gross loan opening	**0.00**	**56.72**	**56.72**	**56.72**	**56.72**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	0.00	56.72	56.72	56.72	56.72
	Additions during the year	56.72	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	56.72	56.72	56.72	56.72	56.72
	Average Loan	28.36	56.72	56.72	56.72	56.72
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	2.64	5.27	5.27	5.27	5.27
	Bond XLVI					
	Gross loan opening	**0.00**	**143.94**	**143.94**	**143.94**	**143.94**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	0.00	143.94	143.94	143.94	143.94
	Additions during the year	143.94	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	143.94	143.94	143.94	143.94	143.94
	Average Loan	71.97	143.94	143.94	143.94	143.94
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	6.69	13.39	13.39	13.39	13.39
	Bond XLVII - ADDCAP - 14-15					
	Gross loan opening	**0.00**	**148.00**	**148.00**	**148.00**	**148.00**
	Cumulative Repayment upto DOCO/previous year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	0.00	148.00	148.00	148.00	148.00
	Additions during the year	148.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	12.33
	Net Loan-Closing	148.00	148.00	148.00	148.00	135.67
	Average Loan	74.00	148.00	148.00	148.00	141.84
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	6.61	13.22	13.22	13.22	12.67
	Total Loan					
	Gross loan opening	5319.76	5668.42	5668.42	5668.42	5668.42
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	326.64	661.61
	Net Loan-Opening	5319.76	5413.12	5413.12	5413.12	5413.12

	Additions during the year	348.66	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	326.64	334.97	806.13
	Net Loan-Closing	5668.42	5668.42	5341.78	5006.81	4200.68
	Average Loan	5494.09	5668.42	5505.10	5174.30	4603.75
	Rate of Interest	**9.8156%**	**9.7949%**	**9.7814%**	**9.7519%**	**9.7703%**
	Interest	539.28	555.22	538.48	504.59	449.80