

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 90/TT/2016

Coram:

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

Date of Hearing : 11.07.2016

Date of Order : 29.07.2016

In the matter of:

Determination of transmission tariff for **Asset:**400 kV D/C Ranchi – Chandwa – Gaya line alongwith associated bays at Ranchi, Chandwa (GIS) and Gaya Sub-stations and 2X125 MVAR 400 kV Bus Reactor alongwith associated bays at Chandwa (GIS) under “Transmission System for Phase-I Generation Projects in Jharkhand and West Bengal Part A1”(Anticipated COD - 30.6.2016) for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board- BSEB)
VidyutBhawan, Bailey Road
Patna- 800 001
2. West Bengal State Electricity Distribution Company Limited
BidyutBhawan, Bidhan Nagar
Block DJ, Sector-II, Salt Lake City,
Kolkata-700 091
3. Grid Corporation of Orissa Ltd.
Shahid Nagar,
Bhubaneswar- 751 007



4. Damodar Valley Corporation
DVC Tower, Maniktala
Kolkata- 700 054
5. Power Department
Govt. of Sikkim, Gangtok- 737 101
6. Jharkhand State Electricity Board
In front of Main Secretariat,
Doranda, Ranchi- 834002
7. Essar Power (Jharkhand) Ltd.
Essar House, 11 K.K. Marg,
Mahalaxmi, Mumbai, 400034
8. Adhunik Power And Natural Resources Ltd.
Crescent Towers (3rd Floor),
229 A J C Bose Road, Kolkata, 700020
9. Corporate Power Ltd.
8th and 9th Floor, Mahabir Tower,
Main Road Ranchi, Jharkhand, 834001

.....**Respondents**

The following were present:-

For Petitioner: Shri S.S. Raju, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri Amit Yadav, PGCIL
 Shri M.M. Mondal, PGCIL

For Respondent: Shri Sakya Singha Chaudhuri, Advocate, EPJL
 Smt Molshree Bhatnagar, Advocate, EPJL

ORDER

This petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for 400 kV D/C Ranchi – Chandwa – Gaya line alongwith associated bays at Ranchi, Chandwa (GIS) and Gaya Sub-stations and 2X125 MVAR 400 kV Bus Reactor alongwith associated bays at Chandwa (GIS) under “Transmission System for Phase-I Generation Projects in Jharkhand



and West Bengal Part A1” anticipated to be commissioned on 30.6.2016 for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period starting from COD to 31.3.2019. The petitioner subsequently vide affidavit dated 22.7.2016 submitted the actual COD of the asset as 12.7.2016.

2. The respondents are distribution licensees, or centralised power procurement companies of States and private generating companies who are procuring transmission service from the petitioner, mainly beneficiaries of the Eastern Region.

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

(a) The investment approvals for the project was accorded by Board of Directors of the petitioner’s company vide Memorandum No. C/CP/ Jharkhand and West Bengal Projects (Ph-I) Part-A1 dated 25.10.2011 with an estimated cost of ₹55826 lakhs including Interest during Construction of ₹2630 lakhs, based on second quarter 2011 price level. The scheme was discussed with the regional constituents in the standing Committee Meetings of ER, WR and NR held on 20.9.2010, 10.9.2009 and 29.9.2010 respectively as a part of the common system strengthening scheme for transfer of power to ER, WR and NR from various IPPs in Jharkhand and West Bengal.



Further, the scheme has also been discussed in the Regional Power Committee (RPC) meetings of Eastern Region, Western Region and Northern Region held on 18.12.2010, 25.9.2009 and 4.1.2011 respectively.

- (b) The petitioner, vide its affidavit dated 22.7.2016, has submitted the Revised Cost Estimate (RCE) for the project as ₹72777.00 lakh including IDC of ₹9679 lakh at February 2016 price level.
- (c) The project scope of work under “Transmission System for Phase-I Generation Projects in Jharkhand and West Bengal Part A1” is as follows:-

Transmission Lines:

Ranchi New (765/400 kV S/s) – Gaya 400 kV D/C (Quad) line via Pooling Station proposed near Essar/Corporate generation projects.

Substations:

Establishment of 400 kV GIS Pooling Station (Jharkhand Pool) near Essar and Corporate generation projects.

The petitioner in its petition submitted the anticipated commercial operation date (COD) as 30.6.2016 and vide its submission dated 22.7.2016 submitted the actual COD as 12.7.2016.

- (d) The petitioner has revised its claim of transmission charges vide affidavit dated 22.7.2016 for the assets covered in the instant petition for tariff period from actual COD to 31.3.2019 as under:-



(₹ in lakh)

Asset			
Particulars	2016-17	2017-18	2018-19
Depreciation	2410.21	3527.08	3592.32
Interest on Loan	2772.61	3797.77	3556.93
Return on Equity	2690.29	3940.20	4014.47
Interest on Working Capital	201.80	288.85	288.07
O&M Expenses	576.90	827.40	854.87
Total	8651.81	12381.30	12306.66

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

(₹ in lakh)

Asset			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	120.12	124.11	128.23
O & M Expenses	66.73	68.95	71.24
Receivables	2001.53	2063.55	2051.11
Total	2188.38	2256.61	2250.58
Interest	280.11	288.85	288.07
Rate of Interest (%)	12.80%	12.80%	12.80%
Pro-rata Interest	201.80	288.85	288.07

4. The petitioner has submitted the single line diagram of the said asset vide affidavit dated 26.4.2016.

5. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 11.7.2016. Respondent No. 7



Essar Power (Jharkhand) Limited has filed their reply vide affidavit dated 8.7.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

6. The petitioner initially had submitted the tariff forms for the assets on the basis of anticipated COD. Accordingly, the petitioner was directed to submit Auditor's Certificate and revised tariff forms for the assets in case COD has been achieved. Further, the petitioner was directed to submit the RLDC Certificates in support of trial operation for the assets vide Record Of Proceeding (ROP) dated 14.7.2016. In response, the petitioner vide affidavit dated 22.7.2016, has submitted the date of actual COD and CEA Certificate along with revised tariff forms supported by Auditor's Certificate for Assets covered in the petition..The petitioner has submitted the RLDC certificate issued by ERLDC vide letter dated 25.7.2016.

7. The petitioner has submitted that the associated generating stations for which the system was originally planned have been delayed. The Petitioner has however submitted that the Utilization of 400kV D/C Ranchi – Chandwa – Gaya line in view of uncertainty / delay in generation at Essar and Corporate plants was discussed in the Standing Committee on Power System Planning of Eastern Region held on 25.5.2015. During the meeting for review of progress of 765kV network in Eastern Region agreed earlier in the Standing Committee Meeting, it was informed by the petitioner that the implementation of the 765kV ring network was being taken up in a phased manner depending upon the progress of various



UMPPs / IPPs in the region. For requirement of 765kV Ranchi – Gaya network, it was informed by the petitioner that Ranchi – Chandwa – Gaya 400kV D/C (quad) line was originally planned for evacuation of power from Essar and Corporate generation projects to be pooled at Chandwa pooling station. However, due to delay of these projects, the high Capacity 400kV D/C would serve the requirement of regional strengthening scheme in place of Ranchi – Gaya section till the commissioning of any new generation project in this area.

Submission of Essar Power (Jharkhand) Limited (Respondent No. 7)

The Respondent No. 7, Essar Power (Jharkhand) Limited (EPJL), vide its affidavit dated 8.7.2016 has submitted preliminary objections on the maintainability of the transmission tariff petition and application of the transmission charges on EPJL. EPJL submitted that it is in the process of setting up a Coal based Thermal Power station of 3x600 MW in chandwa Tehsil, District Latehar in the State of Jharkhand. EPJL further submitted that it made an application to the petitioner's company for grant of Long Term Open Access (LTOA) for Inter-State transmission of electricity. EPJL at that time represented that it was in the advance stage of development of 2x600 MW pit-head Super Thermal Power Station in the State of Jharkhand accordingly, made an application dated 7.7.2009 to the petitioner regarding grant of LTOA and requested the petitioner to construct new pooling station near the generation projects being developed by the EPJL and other power generators. EPJL submitted that it requested the petitioner to construct transmission line from the



new pooling station to its pooling station at Ranchi and EPJL would construct the dedicated transmission line from its generation project to the new pooling station which is about 20 to 30 km. It further submitted that EPJL has executed PPAs for 750 MW (450 MW and 300 MW each with BSEB) for supply of power of varied quantity and requested the petitioner to confirm the delivery point for servicing the PPAs. EPJL **is stated to** have intimated the petitioner that it was in the process of installing one more unit of 600 MW under phase II of the project for which it had executed a PPA for 240 MW is executed with NOIDA Power Company Limited (NPCL).

8. EPJL has submitted that, the development and construction of Generation project was stalled and eventually got delayed due to various force majeure events, which were beyond the control of EPJL. Due to such events, the Generation project could not achieve schedule commissioning of its unit. The major causes for the delays submitted by EPJL have been stated as under:-

- a) Delay in receiving statutory clearances and certificates from Ministry of Environment and Forest ("MoEF").
- b) Delay due to coal allocation, mining site hurdles and other associated issues.
- c) Delay due to water linkage and associated issues.
- d) Delay due to cancellation of coal mines/de-allocation of coal blocks.
- e) Delay due to Naxalite hindrances, protests and bandhs.

9. EPJL has submitted that due to the above reasons, the PPA signed between EPJL and NPCL stood frustrated and accordingly was declared so by



the Uttar Pradesh Electricity Regulatory Commission (“UPERC”). It further submitted that since the commissioning of the generation project was uncertain, PPAs in the western Region (110 MW) could not be formalized. EPJL submitted that due to foregoing reasons, EPJL vide its letters dated 20.1.2016 relinquished 350 MW of its LTOA rights since it became impossible and impractical for EPJL to utilize the identified transmission system for Northern and Western Region.

10. EPJL further submitted that the Standing Committee Meeting was held by Central Electricity Authority on power system planning in Eastern Region on 2.5.2014. During the meeting, EPJL appraised that COD of its project scheduled to be originally commissioned in March and May of 2013 had been revised to December, 2016. EPJL submitted that in that meeting it had informed the petitioner and CEA about the status of the project and sought extension of LTOA. EPJL submitted that the petitioner in the same meeting appraised CEA about the request made by EPJL vide letter dated 14.2.2014 and 20.2.2016 for extension of date of commencement of LTOA to end of December, 2016. EPJL further submitted that during the standing committee meeting held on 2.5.2014, the petitioner explained that even if EPJL and corporate generators fail to connect to the Jharkhand pooling station, the Jharkhand Pool – Ranchi and Jharkhand Pool – Gaya lines would be useful for interconnection between Ranchi and Gaya and would help to wheel power from ER to NR and also from WR to NR via ER and accordingly proposed an alternate use of lines.



11. EPJL submitted that similarly, in the 17th Standing Committee Meeting dated 2.5.2014 on power system planning of Eastern Region, the petitioner had stated that the Ranchi-Gaya 400 kV D/c (quad) line via chandwa pool was originally planned for evacuation from EJPL and Corporate Group's generation projects to be pooled at chandwa pool. However, due to delay in these projects, the high capacity line 400 kV D/c line would serve the requirement of regional strengthening scheme in place of 765 kV Ranchi-Gaya section till the commissioning of the EPJL's and Corporate Group's generation project in this area.

12. EPJL submitted that accordingly, considering the uncertainty/ delay in achieving commissioning of the generation project by EPJL, petitioner re-optimised the identified transmission system and changed the utilization of the transmission assets and the petitioner in the instant petition has stated as follows:-

“The transmission asset will be utilized as part of regional strengthening scheme in place of 765 kV Ranchi – Gaya section till commissioning of any new generation project in the area.”

13. EPJL submitted that since petitioner has found the alternate utilization of the transmission assets which will ensure recovery of its investment, and the fact that EPJL would not be utilizing the transmission assets for the time being, EPJL requested that it may be removed from the array of parties.



14. The Commission has examined the submission made by the petitioner and the respondents. It is observed that the 16th Standing Committee Meeting on Power System Planning held on 2.5.2016 following deliberation are made:-

“CTU/POWERGRID informed that the Jharkhand Pool substation (PG) is already under construction and the generation developers viz. Essar and Corporate-II need to ensure that their dedicated transmission line alongwith associated line bays at Jharkhand pool get commissioned matching with the commissioning schedule of the Jharkhand Pool substation.

Essar Power informed that all the project activities have stopped due to de-allocation of coal blocks by Ministry of Coal in February 2014 and the matter is sub-judice. No funds are being released by lenders till the coal blocks issue is resolved. However, it was informed that 1st unit could be expected to be commissioned by the end of 2016 onwards subject to regulatory clearances for the coal blocks.

Corporate power also informed that they are facing severe financial crisis, all project activities are on hold and, future of the generation project is quite uncertain.

CTU stated that the transmission system is already under implementation and therefore generation developers are liable to pay applicable transmission charges as and when the transmission system gets commissioned.

POWERGRID further explained that even if the Essar and Corporate-II generators fail to connect their dedicated line to Jharkhand pool substation, the Jharkhand Pool - Ranchi and Jharkhand Pool – Gaya lines would be useful for interconnection between Ranchi and Gaya and would help in wheel power from ER to NR as well as from WR to NR via ER.”

15. Further, in the said meeting, the Request of Essar Power (Jharkhand) Limited for extension of date of commencement of LTA was considered and decided as under:-

“CTU informed that Essar Power (Jharkhand) Limited was granted LTA for 1100MW power from its 2x600 MW generation project in Latehar district of Jharkhand IPPs is under implementation by POWERGRID / Private sector Transmission Licensee. The generation developer has signed necessary commercial agreements with POWERGRID / Private Sector Transmission



Licensee for payment of transmission charges after commissioning of the transmission system.

Now, the generation developer vide its letter dated 14.2.2014 and 20.2.2014 intimated that their generation project is getting delayed due to various unforeseen reasons and could be expected to be commissioned by the end of 2016. Accordingly, the generation developer requested to extend the date of commencement of its LTA to the end of December-2016.

CTU informed that as per CERC regulations and the commercial agreements signed between the generation developer and POWERGRID / Private Sector Transmission Licensee, the generation project is liable to pay the applicable transmission charges w.e.f date of commercial operation of the transmission system.”

16. The above deliberations in the standing committee meeting clearly shows that CTU indicated about the possibility of the subject transmission system being used for wheeling of power from ER to NR as well as from WR to NR via ER in the absence of the commissioning of the generation projects of EPJL and Corporate Power. CTU at the standing committee meeting has clarified that since the transmission system is under implementation, the generation developers are liable to pay the transmission charges for the said line. Further, as regards on request of Essar power (Jharkhand) limited for extension of date of commencement of LTA, CTU has clarified that since EPJL has sign commercial agreement with the PGCIL/ Private Sector Transmission Licensee for payment of transmission charges after commencement of the transmission system, the generation developer's is liable to pay the applicable transmission charges. Moreover, the generation developers has requested for extension of implementation of LTA to end of December 2016.



17. In other words, EPJL intends to retain its LTA but is not willing to pay the transmission charges till its generating station is commissioned. We are unable to agree that the respondent should be deleted from the array of respondents only because CTU has stated in the standing committee meeting that the Jharkhand Pool Ranchi and Jharkhand Pool Gaya would have obligation to use as an interconnection between Ranchi and Gaya. We therefore reject the plea of EPJL from being deleted as array of parties. EPJL will be entitled from payment of transmission charges in accordance with the BPTA unless, it relinquishes its LTA in accordance with the Connecting Regulations.

Commercial Operation Date (“COD”)

18. The petitioner has submitted the date of the commercial operation of the instant assets as 12.7.2016. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx
xxx”

19. The petitioner, vide its affidavit dated 22.7.2016, has submitted that Regional Load Dispatch Centre (ERLDC) Certificate in support of the claim of



commercial operation indicating completion of successful trial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations for the transmission assets will be submitted subsequently. The petitioner has submitted the certificate issued by CEA dated 29.6.2016 towards energizing electrical installation (under Regulation 43) by Regional Inspectorial Organization (East) for the Asset. The petitioner has submitted the RLDC Certificate issued by ERLDC vide letter dated 25.7.2016. Since the transmission system has been commissioned in accordance with the 2014, Tariff Regulation as quoted above with effect from 12.7.2016, the COD of the transmission system shall be allowed from this date.

20. The tariff has been worked out from COD to 31.3.2019 in accordance with the 2014 Tariff Regulations as discussed in subsequent paragraphs.

Capital Cost

21. The petitioner has claimed capital cost of ₹68541.64 lakh for the assets after adjusting the accrued IDC. The capital cost as on COD also includes the cost towards IDC, IEDC and initial spares.

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

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

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



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

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

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

23. The details of Revised Cost Estimates (RCE) approved cost, capital cost as on date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the instant asset covered in the petition are as under:-

Particulars	Approved apportioned cost as per	Cost as per RCE approved	Capital cost as on COD	Additional capitalization			Total estimated completion
				2016-17	2017-18	2018-19	
(₹ in lakh)							



	FR						cost
Asset	56181.64	72777.00	60934.26	5082.51	1918.39	606.47	68541.64

Time over-run

24. As per the investment approval, the commissioning schedule of the project was 25 months from the date of investment approval. The investment approval was accorded on 25.10.2011 and accordingly the scheduled date of commercial operation works out to 24.11.2013. The transmission assets covered under instant petition were commissioned on 12.7.2016.

Assets name	SCOD as per IA dated 25.10.2011	Actual date of commercial operation	Delay in months
Asset	24.11.2013	12.7.2016	31 months and 18 days

25. There is a time over-run of around 31.5 months in case of instant assets. The petitioner, vide its affidavit dated 22.7.2016, has submitted that the time over-run is due to delay in forest clearance and subsequent activities, Naxal / law and order related disturbances and delay in getting possession of land for Chandwa substation.

26. The detailed reasons submitted by the petitioner for time-over run are given below:-



A. Delay due to forest clearance:

- i. **Ranchi – Chandwa section:** Total forest area involved in the project was 21.27 Ha (47 locations and 23 km) in Jharkhand. It had taken more than 3 years for obtaining clearance and working permission/tree felling permission in the state of Jharkhand & Bihar inspite of regular follow up at different levels of Forest Department. The chronological details of delay due to forest clearance in Jharkhand are as under:-

Forest area involved	21.27 Ha
Proposal submission to Nodal Officer, Jharkhand	10.1.2012
DFO conveyed observation	12.6.2012
Compliance submitted	6.7.2012
Applied for NOC for GM/JJh Land to SDO, Latehar	8.9.2012
Applied to JSAC for Georeferencing	4.2.2013
DFO visited to site	8.2.2013
DFO forwarded to CF, Daltonganj	11.2.2013
Applied for FRA certificate to DC, Latehar	20.2.2013
RCCF, Daltonganj forwarded to Nodal, Ranchi	11.3.2013
Nodal forwarded to PCCF, Ranchi	3.4.2013
PCCF, Ranchi forwarded to P. Secry.(F), Jharkhand	12.4.2013
NOC for GM/JJH land issued	2.5.2013 & 8.5.2013
FRA certificate issued	28.6.2013
Georeferenced shape file received from JSAC	29.9.2013
Proposal forwarded by state Govt to MoEF for Stg I clearance	31.10.2013
Stage I clearance received by petitioner on	10.2.2014
Stage-I compliance submitted by petitioner on	30.5.2014



Working permission received by petitioner on	11.2.2015
Tree felling permission received by Petitioner on	16.3.2015

There are total 195 locations in Ranchi-Chandwa line and out of 195 locations, 148 locations were completed within the schedule and foundation, erection and stringing works at 47 nos started after getting the tree felling permission.

- ii. **Chandwa- Gaya Section:** Total Forest evolved in Chandwa Gaya line was 270.626 Ha in Lathehar, Chatra South, Chatra North and Gaya. The total forest affected locations were 213 and affected length was 95.41 km. The chronological details of delay due to forest clearance in Jharkhand are as under:-

Event	In Lathehar	In Chatra(South)	In Chatra(North)
Forest area involved	59.907 Ha	144.234 Ha	61.517 Ha
Proposal submission to Nodal Officer, Jharkhand	8.5.2012	8.5.2012	8.5.2012
FRA applied to DC	17.5.2012	12.6.2012	12.6.2012
DFO conveyed observation	25.9.2012	28.8.2012	24.7.2012
Compliance submitted	16.11.2012	17.11.2012	5.11.2012
Applied to JSAC for Georeferencing	4.2.2013	4.2.2013	4.2.2013
DFO visited to site	12.3.2013	20.2.2013	Date is not available
DFO forwarded to CF	16.3.2013	23.3.2013	6.12.2012
Applied for NOC for GM/JJh Land	3.4.2013	13.2.2013	11.3.2013
RCCF forwarded to Nodal officer Ranchi	11.4.2013	7.3.2013	15.1.2013
Nodal forwarded to PCCF, Ranchi	18.4.2013	18.4.2013	18.4.2013
PCCF, Ranchi forwarded to P. Secry.(F), Jharkhand	8.5.2013	8.5.2013	8.5.2013
NOC for GM/JJH land issued	2.5.2013 & 8.5.2013	13.2.2013	11.3.2013



FRA certificated issued	28.6.2013	3.2.2013	10.12.2012
Georeferenced shape file received from JSAC	20.9.2013	20.9.2013	20.9.2013
Inspection by CF(Central), Bhubaneswar	4.3.2014	4.3.2014	4.3.2014
FAC meeting held on	29.4.2014	29.4.2014	29.4.2014
Observation made by MoEF	19.5.2014	19.5.2014	19.5.2014
Compliance Submitted	24.9.2014	24.9.2014	24.9.2014
Stage I clearance received by petitioner on	12.12.2014	12.12.2014	12.12.2014
Stage-I compliance submitted by petitioner on	12.3.2015	12.3.2015	12.3.2015
Working permission received by petitioner on	18.5.2015	18.5.2015	18.5.2015
Tree felling permission received by petitioner on	30.10.2015	1.2.2016	3.11.2015

iii. The petitioner submitted that the tree felling permission was received by petitioner was on dated 1.2.2016, however, after receiving the tree felling permission, the work was stopped on 26.3.2016 due to delay in permission letter of road transportation in Simaria forest area range. After that the petitioner had issued request letter dated 4.4.2016 to DFO to appoint forest range officer at Simaria area and provide the permission letter for transportation in forest area. After receiving the permission letter, finally the tree felling work started in that area by 27.4.2016.

iv. The chronological details of delay due to forest clearance in Bihar are as under:-

Forest area involved	4.968 Ha
Proposal submission to Nodal Officer, Jharkhand	6.3.2012
DFO conveyed observation	2.5.2012



Compliance submitted	3.10.2012
Applied for FRA certificate	18.10.2012
Joint Inspection of DFO	5.12.2012
Stage I clearance received by Petitioner on	3.6.2013
FRA certificated issued	17.7.2013
Stage I clearance received by Petitioner on	3.6.2013
Stage-I compliance submitted by Petitioner on	13.9.2013
Stage II clearance received by Petitioner on	2.12.2014
Joint inspection of forest tree on	4.11.2015
Tree felling permission received by Petitioner on	5.11.2015

- v. The Petitioner submitted that the proposal for forest clearance was submitted between Jan2012 to May2012 in both the sections of the said transmission line. The forest clearance was granted on March'2015 (for Ranchi – Chandwa section) and on Nov'2015 (for Chandwa – Gaya section) i.e. after around 03 years & 09 months. It is evident from the above that the forest clearance was granted only after 02 years of Scheduled completion (i.e. Nov'2012 as per I.A.) after getting the requisite permission.

B. Delay due to Maoist activities and law and order issues in Jharkhand and RoW problems:

- i. Ranchi Chandwa Gaya line passes through the disturbed areas in Lathehar and Chatra district of Jharkhand. These areas witness Maoist related violence quite frequently and work in the transmission line was affected / stopped due to such actions time and again. Different extremist outfits are active in this



area and they gave Bandh Call frequently in Jharkhand which result into complete stoppage of work time and again. Being highly sensitive area, work was being carried out taking all precautions to avoid any untoward incident involving naxalites. Such incidences are taking heavy toll on the morale of the working employee and at number of times they had deserted the site. There had been frequent stoppage of work due to obstructions created by land owners also. Time and again the matter had been referred to local and district authorities for resolving the issues and in most of the cases the matter had been resolved with hindrances lasting for 10-15 days. However, there were some locations where ROW problems were quite severe. Due to proactive and best efforts, several correspondences and regular follow up at various levels with government authorities, the obstruction has been removed. The petitioner has submitted the detailed hindarance report on such location under Rachi – Chandwa – Gaya line vide affidavit dated 26.4.2016.

C. Delay due to acquisition of Land:

- i. Request for acquisition of around 40 acre land in villages Angarha, Bhusad and Hisri of Chandwa was submitted by petitioner on 27.2.2010. Due to the involvement of tribal land and prevailing CNT Act (Chhotanagpur Tenancy Act) in Jharkhand, acquisition of tribal lands is very difficult. In order to expedite the process of land acquisition, a meeting was held with Essar Power, who had already acquired land for their projects and were also in the process of acquisition / purchase of more land for their project on 14.10.2011.



During the meeting M/s Essar Power offered petitioner to take 18 acre of land acquired for their project. The requirement of land was around 22 acre for construction of Sub-station and for balance 3.06 acre of land, petitioner approached to District authority of Lathehar on 8.5.2012. Again a meeting was conducted on 26.6.2012 with M/s Essar Power, in which M/s Essar Power offered a piece of land measuring 22.72 acres at village Angaraha. These lands were in different stages of acquisition / possession as mentioned below:

- (i) Raiyati Land - **15.34 acres** – out of this registry and mutation of only 6.4 acres of land was in the name of M/s Essar Power. On around 2 acres of land physical possession of M/s Essar Power was not available and mutation of 7 acres of land was under hold due to CNT act.
- (ii) Scheduled Tribe land – **3.95 acres** –Physical possession of this land was with M/s Essar Power but the procedure for transfer of this land was very cumbersome and time taking.
- (iii) G.M. - Khas – **2.61 acres** – Petitioner had initiated action for acquisition of this land but the same was under possession of some local public not ready to provide the land. Land acquisition procedure was initiated but could not be finalized.
- (iv) Bandobastiraiyati land- **0.82 acres** – M/s Essar has possession of this land but verification was under process.



- ii. The Petitioner submitted that the acquisition of land in part was not serving the purpose. Letters written to CO - Chandwa, DC – Latehar and MOM with Commissioner – Palamau in this regard has been attached. Matter for acquisition of said land was discussed at all levels of Jharkhand Government department but due to prevailing CNT act in Jharkhand, lengthy and time taking procedure for acquisition of tribal and GM land, acquisition of the said land could not be done.
- iii. Ultimately only 14.08 acres of land was purchased on 8.4.2013 from M/s Essar Power through sale deed. The site was handed over to M/S Hyosung Corporation on 17.4.2013 for starting of construction activities (letter enclosed).It had taken almost around 18-19 months to get possession of the land.

A brief chronology of events related to land acquisition is mentioned below:

Request for acquisition of land submitted on	27.2.2010
Request for acquisition of 3.06 acre of land submitted on	8.5.2012
MOM with District Commissioner Lathehar on	31.8.2012
Sale Deed Agreement signed with M/S Essar Power	8.4.2013
Letter for handing over site to M/S Hyosung Corporation	27.4.2013

27. We have considered the submission of the petitioner. The time over-run is on account of getting forest clearance, land acquisition and ROW issues. The time consumed on account of forest clearance was 42 months from the date of



investment approval which is 25.10.2011. The delay due to Maoist activities and law and order issues in Jharkhand and RoW problems started on 3.9.2012 and continued till 24.6.2016. The time consumed on account of land acquisition was 36 months. We have gone through the submissions of the petitioner and are of the view that the time over-run of 31 months and 18 days in commissioning of the Asset is beyond the control of the petitioner and it cannot be attributed to the petitioner. Accordingly, the time over-run in case of the instant asset is condoned and accordingly IDC and IEDC for the delay are allowed to be capitalised.

Cost Over-run

28. The petitioner has submitted Revised Cost Estimates (RCE) approved apportioned cost for the assets covered in the petition. The details are as given below:-

(₹ in lakh)				
Asset	COD	Apportioned cost as per FR as submitted in original petition	Cost as per RCE approved	Estimated completion cost an on 31.3.2019
Asset	12.7.2016	56181.64	72777.00	68541.64

29. The completion cost of the instant asset was exceeding the apportioned approved original FR cost. The petitioner, vide its affidavit dated 22.7.2016, has submitted the following reasons for cost over-run:

Reasons for cost variation:

30. The reasons for cost over-run is attributable to inflationary trends prevalent during execution of project from October, 2011 (first OBD under the



project) to March, 2015 (period of major supplies), as may be seen from the trend of variation in indices of various major raw materials as indicated below:

NAME OF INDICES	During DPR (2Q'11 PL)	Sep'11 (one month prior to first OBD)	MARCH 2013	MARCH 2014	MARCH 2015	% Increase from first OBD
Tower Steel	49465	49465	53539	53586	49918	0.92%
HG Zinc	118100	121100	132900	159200	155600	28.49%
EC Grade Al	148500	141000	146700	143883	151833	7.68%
CRGO	152362	167889	156590	194009	226050	34.64%
Copper	424351	429880	441489	422611	393972	-8.35%
WPI	153.1	156.2	170.1	178.9	176.1	12.74%
WPI for Ferrous metals	143.7	146.3	154.7	156.3	151.4	3.49%
WPI for Fuel & Power	161.6	168.3	191.6	212.6	187.3	11.29%
CPI	189	197	224	238	254	28.93%

31. Thus the price variation under the project is attributable to the inflationary trend (except Copper) prevailing during execution of project and also market forces prevailing at the time of bidding process of various packages.

The variation in quantities is summarized below:

Description	Quantity		Remarks
	FR	Actual	
Forest Area (Ha)	296	291.9	Actual forest area after detail survey
Line Length (km)	198	186.2	Actual line length after detail survey
No of towers (Nos)	557	527	As finalized after detail survey



Description	Quantity		Remarks
	FR	Actual	
Suspension (Nos)			As finalized after detail survey. M/C towers used near substations to avoid future corridor constraints.
	D/C	372 / 303	
	M/C	Nil / 3	
Tension (Nos)			As finalized after detail survey. M/C towers used near substations to avoid future corridor constraints.
	D/C	185 / 208	
	M/C	Nil / 13	
Tower Steel (MT)	14206	15766	Due to increase in Tension towers and use of M/C towers near the substations to avoid future corridor constraints.
Concreting(Cu M)	25798	37043	
Reinforcement Steel(MT)	2110	2535	
Conductor (km)	4824	4529	Actual line length after detail survey
Earthwire (km)	402	201	OPGW used in place of one earthwire

32. During execution, the quantity of suspension towers has been reduced and quantity of tension towers (DC & DD) has been increased in order to avoid new obstructions i.e., villages/habitats enroute the line as well as minimizing the affected forest areas. Due to increase in angle towers required tower quantity, insulator, reinforcement, concreting etc. also increased.

Line Erection and Civil works:



33. Main reason for higher side variation in the overall erection portion w.r.t. FR is observed in civil quantities which are based on actual Soil Strata and tower erection quantities due to change of type of towers, etc. Change in quantities are due to site conditions, soil etc and the rates as arrived in competitive bidding on which petitioner has no control.

Substation Civil works:

34. The equipment civil works comprises mainly of following items :

- Concreting associated with equipment structure foundations including excavation steel etc.
- Cable Trench/Drains
- Foundation of Reactors
- Switchyard dressing/ gravelling etc.

In respect of civil works associated with switchyard the estimate for FR purpose is taken on normative basis based on estimated quantities of various items. However BOQ is prepared after detailed engineering and as per actual site condition. Completion cost has also been increased due to increase in the amount of compensation actually paid by the petitioner towards Crop compensation and PTCC and forest. The actual compensation amount was decided by the competitive authority.

35. The completion cost of the instant assets is within the apportioned cost as per RCE and hence the same is allowed to be capitalized.



Treatment of Initial spares:

36. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

- “ (a) Coal-based/lignite-fired thermal generating stations - 4.0%
(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%
(c) Hydro generating stations including pumped storage hydro generating station-4.0%
(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%”

37. The petitioner has claimed initial spares of ₹430.43 lakh, and ₹347.20 lakh for transmission line and 6 bays of Gas Insulated Sub-station (GIS) and 4 bays of Sub-station (Brownfield) for assets covered in instant petition respectively. Initial spares claimed for transmission line and sub-station (GIS) is within the ceiling limit specified in the 2014 Tariff Regulations.

(₹ in lakh)

Description	Plant & Machinery Cost as on cut-off date based on Auditor's Certificate (a)	Initial spares claimed (b)	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation (c)	Ceiling limit of Initial Spares (d)=*((a-b) *c) / (100-c)%	Excess initial Spares	Initial Spares Allowed Min [(b) & (d)]
Transmission Line	48198.48	430.43	1.00%	482.51	0.00	430.43
Sub-station (GIS) and (Brownfield)	8679.82	347.20	5.00%	438.56	0.00	347.20



IDC and IEDC:

38. The petitioner was directed to provide the computation of IDC and IEDC on cash basis (i) from date of infusion of debt fund to scheduled COD and (ii) from scheduled COD to actual COD. In response, the petitioner vide its affidavit dated 22.7.2016 submitted the breakup of IDC and IEDC on cash basis as follows:

Particulars	(₹ in lakh)	
	IDC	IEDC
IDC and IEDC as per Certificate	8480.57	925.64
IDC and IEDC discharged upto COD	6937.96	925.64
IDC discharged in 2016-17	1443.66	0.00
IDC to be discharged in 2017-18	98.95	0.00

39. Further, the petitioner has submitted that entire IEDC amount mentioned in the Auditor's Certificate is on cash basis and is paid upto COD. As discussed, earlier, we have allowed the time over-run for reasons stated above and therefore have considered the IDC and IEDC as submitted by the petitioner.

Additional Capital Expenditure

40. The petitioner has proposed additional capitalization of ₹5082.51 lakh from COD to 31.3.2017, ₹1918.39 lakh for the year 2017-18 and ₹606.47 lakh for the year 2018-19 for the assets towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. The petitioner has claimed additional capitalization including the accrual IDC discharged during 2016-17, 2017-18 and 2018-19. It is observed that total estimated completion cost



including additional capitalization for 2016-17, 2017-18 and 2018-19 is within the approved apportioned cost. The additional capitalization is towards the balance and retention payment for the work within the original scope of work.

41. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” as follows:-

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

42. The cut-off date for the assets covered in the instant petition works out to be 31.3.2019. The additional capitalization claimed by the petitioner is within the cut-off date. The additional capitalization for 2016-17, 2017-18 and 2018-19 is allowed under Regulation 14(1) of the 2014 Tariff Regulations. The details of additional capitalization allowed is as follows:-

(₹ in lakh)

Cost as per RCE approved is ₹72777.00 lakh						
Asset	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As Claimed	60934.27 (62476.88-1542.61*)	5082.51 (3638.85+1443.66*)	1918.39 (1819.44+98.95*)	606.47	7607.38	68541.64
Approved in this order	60934.26	5082.51	1918.39	606.47	7607.38	68541.64

*Accrual IDC adjusted



Debt:Equity Ratio

43. Regulation 19 (1) of the 2014 Tariff Regulations specifies as under:-

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

Provided that:

- 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.”

44. The petitioner has considered debt:equity ratio as 70:30 as on COD and for additional capitalisation post COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2016-17, 2017-18 and 2018-19. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	42653.99	70.00	5325.17	70.00	47979.16	70.00
Equity	18280.28	30.00	2282.21	30.00	20562.50	30.00
Total	60934.27	100.00	7607.38	100.00	68541.65	100.00

Interest on Loan (“IOL”)

45. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides as under:-



“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

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

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

46. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2016 for the instant assets covered. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2016-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2015-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-1** for the assets covered in the instant petition and the IOL has been worked out as follows:-

(₹ in lakh)

Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Gross loan opening	42653.99	46211.75	47554.63
Cumulative Repayment up to previous year	0.00	2410.58	5937.67
Net Loan-Opening	42653.99	43801.17	41616.96
Additions during the year	3557.76	1342.87	424.53



Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Repayment during the year	2410.58	3527.08	3592.32
Net Loan-Closing	43801.17	41616.96	38449.17
Average Loan	43227.58	42709.06	40033.06
Rate of Interest (%)	8.8923	8.8814	8.8736
Interest	2769.74	3793.15	3552.38

Return on Equity (“ROE”)

47. Clause (1)& (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 timelines specified in **Appendix-I.**”

“25. Tax on Return on Equity:

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

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

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



48. The petitioner has considered grossed up ROE at the rate of 19.610% after grossing up the ROE of 15.50% with MAT rate as 20.96%. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2016-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

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

50. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The grossed up ROE considered for computation of tariff is



19.610%. Hence, the ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)			
Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Opening Equity	18280.28	19805.04	20380.55
Additional Capitalization	1524.76	575.52	181.94
Closing Equity	19805.04	20380.55	20562.50
Average Equity	19042.66	20092.80	20471.52
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%
Tax rate for the year (%)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	2690.72	3940.20	4014.47

Depreciation

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

"27. Depreciation:

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

"(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets."



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

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

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

53. The petitioner has claimed depreciation considering capital expenditure of ₹60934.27 lakh, as on COD for the asset and additional capitalization of ₹5082.51 lakh (including accrual IDC), ₹1918.39 lakh (including accrual IDC) and ₹606.47 lakh for 2016-17, 2017-18 and 2018-19 respectively for the asset covered in the instant petition.

54. We have considered the submissions of the petitioner and have computed depreciation considering capital expenditure as on COD and additional capitalization approved for 2016-17, 2017-18 and 2018-19. The weighted average useful life of the asset has been considered as 33 years for all the assets in accordance with the above regulation. The details of the depreciation allowed for the asset is given hereunder:-

(₹ in lakh)

Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Opening Gross block	60934.27	66016.79	67935.18



Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Additional Capitalization	5082.52	1918.39	606.47
Closing Gross block	66016.79	67935.18	68541.65
Average Gross block	63475.53	66975.99	68238.42
Rate of Depreciation (%)	5.271	5.266	5.264
Depreciable Value	57084.09	60257.60	61393.78
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	33	32	31
Remaining Depreciable Value	57084.09	57847.01	55456.11
Depreciation	2410.58	3527.08	3592.32

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

55. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations.

56. We have considered the petitioner’s submission. The petitioner’s entitlement of O&M Expenses has been worked out as given hereunder:-

Particulars	2016-17 (Pro-rata)	2017-18	2018-19
400 kV Bays (in lakh/bay)	64.37	66.51	68.71
400 kV Bays (Nos)	4	4	4
400 kV Gas Insulated Substation	55.02	56.84	58.73
400 kV Bays (Nos)	6	6	6
Multi Circuit (Bundled conductor with four or more sub-conductors)	1.989	2.055	2.123
Line Length (km)	2.6	2.6	2.6
400 kV (Quad) D/C transmission line (Double circuit bundled conductors)	1.133	1.171	1.21
Line Length (km)	183.58	183.58	183.58
Total O&M Expenses (in lakh)	576.99	827.40	854.87



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

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

Interest on Working Capital (“IWC”)

59. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1)(c)(i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis



of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance Spares

Regulation 28(1)(c)(ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28(1)(c)(iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2016 or as on 1st April of the year during the tariff period 2016-17 to 2018-19 in which the transmission system including sub-station, communication system or element thereof, as the case may be, is declared under commercial operation, whichever is



later. Further, the 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. The rate of interest on working capital considered is 12.80% (SBI Base Rate of 9.30% plus 350 basis points) for the assets covered in the instant petition. The interest on working capital allowed for the asset is shown in the table below:-

(₹ in lakh)

Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	86.55	124.11	128.23
O & M expenses	48.08	68.95	71.24
Receivables	1441.63	2062.76	2050.34
Total	1576.26	2255.82	2249.81
Rate of Interest (%)	12.80	12.80	12.80
Interest	201.76	288.75	287.98

Annual Transmission Charges

60. The detailed computation of the various components of the annual fixed charges for the asset for the tariff period 2016-19 is summarised below:-

(₹ in lakh)

Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Gross Block			
Opening Gross Block	60934.27	66016.79	67935.18
Additional Capitalisation	5082.52	1918.39	606.47
Closing Gross Block	66016.79	67935.18	68541.65
Average Gross Block	63475.53	66975.99	68238.42
Rate of Depreciation	5.271	5.266	5.264
Depreciable Value	57084.09	60257.60	61393.78
Elapsed Life of the assets at beginning of year	0	1	2
Weighted Balance Useful life of the assets	33	32	31



Asset			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Remaining Depreciable Value	57084.09	57847.01	55456.11
Depreciation	2410.58	3527.08	3592.32
Interest on Loan			
Gross Normative Loan	42653.99	46211.75	47554.63
Cumulative Repayment upto Previous Year	0.00	2410.58	5937.67
Net Loan-Opening	42653.99	43801.17	41616.96
Additions	3557.76	1342.87	424.53
Repayment during the year	2410.58	3527.08	3592.32
Net Loan-Closing	43801.17	41616.96	38449.17
Average Loan	43227.58	42709.06	40033.06
Weighted Average Rate of Interest on Loan (%)	8.8923	8.8814	8.8736
Interest	2769.74	3793.15	3552.38
Return on Equity			
Opening Equity	18280.28	19805.04	20380.55
Additions	1524.76	575.52	181.94
Closing Equity	19805.04	20380.55	20562.50
Average Equity	19042.66	20092.80	20471.52
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	2690.72	3940.20	4014.47
Interest on Working Capital			
Maintenance Spares	86.55	124.11	128.23
O & M expenses	48.08	68.95	71.24
Receivables	1441.63	2062.76	2050.34
Total	1576.26	2255.82	2249.81
Interest	201.76	288.75	287.98
Annual Transmission Charges			
Depreciation	2410.58	3527.08	3592.32
Interest on Loan	2769.74	3793.15	3552.38
Return on Equity	2690.72	3940.20	4014.47
Interest on Working Capital	201.76	288.75	287.98
O & M Expenses	576.99	827.40	854.87
Total	8649.80	12376.57	12302.01



Filing Fee and Publication Expenses

61. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

62. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

63. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer of service tax is premature.



Sharing of Transmission Charges

64. 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.

65. This order disposes of Petition No. 90/TT/2016.

(Dr. M. K. Iyer)
Member

(A.S. Bakshi)
Member



ANNEXURE-1**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2016-19**

Asset	2014-19			
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2016	Additions during the tariff period	Total
BOND XXXVI-DOCO Loan-	9.35	282.00	0.00	282.00
BOND XXXVIII-DOCO Loan 1-	9.25	1600.00	0.00	1600.00
BOND XXXIX-DOCO Loan 2-	9.40	1078.00	0.00	1078.00
SBI (21.3.2012)-DOCO Loan 10-	9.55	3218.00	0.00	3218.00
BOND XL-DOCO Loan 5-	9.30	600.00	0.00	600.00
BOND - XLI-DOCO Loan 6-	8.85	1469.00	0.00	1469.00
BOND - XLIII-DOCO Loan 8-	7.93	838.00	0.00	838.00
BOND - XLIV-DOCO Loan 9-	8.70	4508.00	0.00	4508.00
SBI (2014-15)-Doco Loan 10-	9.55	1869.00	0.00	1869.00
SBI (2014-15)-DOCO Loan 15-	9.55	1000.00	0.00	1000.00
BOND XLVI -DOCO Loan 11-	9.30	3633.00	0.00	3633.00
Bond XLVII-DOCO Loan 11-	8.93	1184.00	0.00	1184.00
Bond XLVIII-DOCO Loan 12-	8.20	4260.00	0.00	4260.00
BOND L-DOCO Loan 14-	8.40	1797.00	0.00	1797.00
Proposed Loan 2016-2017 INTT 8.13%-DOCO Loan 18-	8.13	3343.99	0.00	3343.99
SBI (2014-15)-Doco Loan 17-	9.55	2300.00	0.00	2300.00
SBI (21.03.2012)-Doco Loan 3-	9.55	1433.00	0.00	1433.00
SBI (21.03.2012)-Doco Loan 7-	9.55	3260.00	0.00	3260.00
BOND LI-Doco Loan 16-	8.40	3595.00	0.00	3595.00
BOND XLIX-Doco Loan 13-	8.15	1386.00	0.00	1386.00
Total		42653.99	0.00	42653.99



**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2016-19**

(₹ in lakh)

Asset			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	42653.99	42653.99	42653.99
Cumulative Repayment of loan upto previous year	0.00	860.40	1840.63
Net Loan Opening	42653.99	41793.59	40813.36
Additions during the year	0.00	0.00	0.00
Repayment during the year	860.40	980.23	2581.57
Net Loan Closing	41793.59	40813.36	38231.79
Average Loan	42223.79	41303.48	39522.58
Rate of Interest (%)	8.8923	8.8814	8.8736
Interest	3754.68	3668.31	3507.08

