

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 253/TT/2015

Coram:

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

**Date of Hearing : 27.06.2016
Date of Order : 30.06.2016**

In the matter of:

Determination of transmission tariff for **Asset-I**: LILO of both circuits of 400kV D/C (Quad) Meerut-Kaithal 400kV D/C transmission line and associated bays at Bagpat GIS Sub-station, **Asset-II**: 125 MVAR Bus Reactor at Bagpat GIS Sub-station, **Asset-III**: 500 MVA 400/220 kV ICT-I at Bagpat GIS Sub-station along with 4 nos. 220kV line bays and **Asset-IV**: 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with 4 nos. 220kV line bays under “Northern Region System Strengthening Scheme-XIX” in Northern Region for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for under 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. Rajasthan Rajya Vidyut Prasaran Nigam Limited.
Vidyut Bhawan, Vidyut Marg,
Jaipur-302 005
2. Ajmer Vidyut Vitran Nigam Limited.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur



3. Jaipur Vidyut Vitran Nigam Limited.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan,
Kumar House Complex Building II
Shimla-171004
6. Punjab State Power Corporation Limited.
Thermal Shed T1 A, Near 22 Phatak
Patiala-147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
8. Power Development Deptt.
Govt. of Jammu & Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited.
Shakti Bhawan, 14, Ashok Marg
Lucknow- 226001
10. Delhi Transco Limited.
Shakti Sadan, Kotla Road
New Delhi- 110002
11. BSES Yamuna Power Limited.
BSES Bhawan, Nehru Place
New Delhi
12. BSES Rajdhani Power Limited.
BSES Bhawan, Nehru Place
New Delhi
13. North Delhi Power Limited.
Power Trading & Load Dispatch Group
Cennet Building



Pitampura, New Delhi-110034

14. Chandigarh Administration
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited.
Urja Bhawan, Kanwali Road
Dehradun
16. North Central Railway
Allahabad
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg
New Delhi-110002

.....**Respondents**

The following were present:-

For Petitioner: Shri Aryaman Saxena, Advocate, PGCIL
Mrs Manju Gupta, PGCIL
Shri Sanjay Sen, Senior Advocate, PGCIL
Shri S. Seshadri, Advocate, PGCIL
Shri S.S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Subhash C. Taneja, PGCIL
Shri V. P. Rastogi, PGCIL

For Respondent: None

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner") for determination of transmission tariff under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for **Asset-I**: LILO of both circuits of 400kV D/C (Quad) Meerut-Kaithal 400kV D/C transmission line and associated bays at Bagpat GIS Sub-station, **Asset-II**: 125



MVAR Bus Reactor at Bagpat GIS Sub-station, **Asset-III:** 500 MVA 400/220 kV ICT-I at Bagpat GIS Sub-station along with 4 nos. 220kV line bays and **Asset-IV:** 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station along with 4 nos. 220kV line bays under “Northern Region System Strengthening Scheme-XIX” in Northern Region(hereinafter referred as “transmission asset”) based on actual capital expenditure from COD to 31.3.2019.

2. The Commission vide order dated 25.1.2016 in Petition No. 253/TT/2015 with respect to COD of the assets stated that it will take a view with regard to the declaration of COD of the instant assets under proviso (ii) of Regulation 4(3) after the lines are certified for regular service by the concerned RLDC. The petitioner was directed to approach the Commission for this purpose with necessary documents as required under the 2014 Tariff Regulations. The Commission in the said order has determined the tariff under Regulation 7(7) of the 2014 Tariff Regulations, based on the anticipated COD of the transmission lines as indicated by the petitioner. Further, the Commission clarified that the transmission charges as determined through this order shall be borne by the UPPTCL/UPPCL till the downstream lines are commissioned by the UPPTCL. After the downstream assets are commissioned by UPPTCL, the same shall be included in the YTC under POC mechanism.

3. Subsequently, the petitioner filed a Review Petition No. 17/RP/2016 seeking the review of the Commission’s direction that petitioner can recover the transmission charges for the intervening period between the declaration of the



commercial operation and the actual commissioning of the downstream transmission assets from UPPTCL/UPPCL for all the assets. The Commission has disposed the review petition vide order dated 31.5.2016.

4. The Commission scheduled another hearing in the matter on 27.6.2016. The Commission was of the view that the issue of declaration of COD in such cases should be decided first before the petitioner files the petition for determination of tariff. The Commission also directed the petitioner to file separate application for obtaining approval of the Commission under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulation only if the transmission assets are ready in all respects for commissioning but cannot be commissioned due to non-commissioning of downstream transmission system as case may be. The Commission further sought trial operation certificate under no load condition from the concerned RLDC, documentary evidence pertaining to the co-ordination efforts made by the petitioner for matching commissioning of the transmission assets with the commissioning of the downstream assets, a certificate from the CMD stating the readiness of the transmission assets for commissioning in terms of sub-clause (vi) of Clause(4) of Regulation 6.3 A of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulation 2010 along with the separate petition.

5. The petitioner vide affidavit dated 26.5.2016 has submitted following commissioning details:-



Asset	SCOD	Actual/ Anticipated COD	Delay (months)
Asset-I: LILO of both circuits of 400kV D/C (Quad) Meerut-Kaithal 400kV D/C transmission line and associated bays at Bagpat GIS Sub-station	15.2.2012	8.5.2016 (Actual)	51
Asset-II: 125 MVAR Bus Reactor at Bagpat GIS Sub-station	15.2.2012	8.5.2016 (Actual)	51
Asset-III: 500 MVA 400/220 kV ICT-I at Bagpat GIS Sub-station along with 1 number of 220 kV line bays	15.2.2012	8.5.2016 (Actual)	51
Asset-IV a: 500 MVA 400/220 kV ICT-II at Bagpat GIS Sub-station	15.2.2012	15.6.2016 (Anticipated)	52
Asset-IV b: 7 numbers of 220 kV line bays at Bagpat GIS Sub-station	15.2.2012	15.6.2016 (Anticipated)	52

6. The petitioner submitted that in addition to delay due to ROW and land acquisition, the delay is also due to matching schedule of downstream system of 220 kV lines which were in the scope of UPPTCL. Further, after commissioning of one circuit of 220 kV Bagpat (PG)- Bagpat (UPPTCL) transmission line of UPPTCL, it has commissioned Asset-I, II & III on 8.5.2016. The petitioner has also submitted various communication/ correspondence with UPPTCL to commission downstream network.

7. During the hearing on 27.6.2016, the petitioner submitted that although the petitioner is ready but because of downstream system, seven line bays are yet to be commissioned. The Commission during the hearing said to the petitioner to leave aside Asset-IV a & IV b and final tariff will be given to only Asset-I, II & III which includes 1 bay which got commissioned.



8. The petitioner vide affidavit dated 23.6.2016 has submitted that commissioning of Asset-IV a & IV b have been delayed on account of delay in completion of downstream assets owned by UPPTCL and further there is no clear indication regarding commissioning of 220 kV UPPTCL line for downstream network. The petitioner has also submitted the minutes of 38th Standing Committee Meeting on Power System Planning of Northern Region held on 30.5.2016 where in UPPTCL submitted the plan to utilize the 8 numbers of 200 kV bays and stated that (i) Bagpat (PG)- Bagpat (220) 220 kV S/C line (ii) Bagpat (PG)- Baraut (220) 220 kV S/C line have already been approved previously in SCM. Further, UPPTCL plans to connect (iii) Stringing of 220 kV 2nd Ckt of Bagpat (PG) to Bagpat (UP) 200 kV line (iv) Stringing of 220 kV 2nd Ckt of Bagpat (PG) to Baraut (UP) 200 kV line (v) Bagpat (PG)- Modipuram (II) 220 kV D/C line (iv) LILO of Moradnagar II (UP)- Shamli 220 kV line at Bagpat (PG). From the 38th SCM, It is observed that there is no clear indication about the COD of the remaining line of UPPTCL, hence, the utilization of remaining bays is not clear.

9. We have considered the petitioners submission and are of the view that the petitioner should file separate application for obtaining approval of the Commission under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulation only if the transmission assets are ready in all respects for commissioning but cannot be commissioned due to non-commissioning of downstream transmission system.. The petitioner is also required to submit a trial operation certificate under no load condition from the concerned RLDC, documentary evidence pertaining to the co-ordination efforts made by the petitioner for matching



commissioning or the transmission assets with the commissioning of the downstream assets, a certificate from the CMD stating the readiness of the transmission assets for commissioning in terms of sub-clause (vi) of Clause(4) of Regulation 6.3A of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulation 2010 along with the separate petition. Accordingly, we are not inclined to approve the tariff for Asset-IV a & IV b in this order.

10. The respondents are distribution licensees or electricity departments or centralised power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Northern Region.

11. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with the Section 64 of 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. Respondent No. 9, Uttar Pradesh Power Corporation Limited (UPPCL) has filed their reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

- (a) The investment approval for the project was accorded by Board of Directors of the petitioner company vide its memorandum no.



C/CP/NRSS-XIX dated 16.2.2009 at an estimated cost of ₹41029 lakh including IDC of ₹3155 lakh.

(b) The scope of work covered under the project is as follows:-

A. Transmission Lines:

LILO of Meerut-Kaithal 400 kV D/C (Quad HSIL) line at Bagpat- 72 Kms.

B. Sub-station Works:

2X500 MVA, 400/220 kV Bagpat (Power Grid) GIS Sub-station (New)

C. Reactive Compensation:

- (i) LILO of both circuits of the Meerut-Kaithal 400 kV at Bagpat
 - a. Meerut-Bagpat- 80Kms.
 - b. Bagpat-Kaithal- 140Kms.- 50 MVAR switchable reactor may be retained
- (ii) 80 MVAR Bus reactor at Kaithal
- (iii) 125 MVAR Bus reactor at Bagpat

13. The revised transmission charges on account of revision in capital cost as claimed by the petitioner is as below:-

(₹ in lakh)			
Particulars (Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	1316.87	1566.18	1592.77
Interest on Loan	1621.23	1800.29	1691.05
Return on equity	1565.14	1859.94	1891.44
Interest on Working Capital	127.93	148.23	147.98
O & M Expenses	439.31	505.51	522.33
Total	5070.48	5880.15	5845.57

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



(₹ in lakh)			
Particulars (Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	73.39	75.83	78.35
O & M expenses	40.77	42.13	43.53
Receivables	941.23	980.03	974.26
Total	1055.39	1097.99	1096.14
Rate of Interest (%)	13.50%	13.50%	13.50%
Interest	127.93	148.23	147.98

Commercial Operation Date (COD)

15. The petitioner has claimed the actual date of the commercial operation for Combined Assets-I, II & III as 8.5.2016. Further, for Asset-IV a & IV b, the petitioner has submitted anticipated COD of 15.6.2016. The petitioner has prayed for approval of COD for Asset-IV a & IV b in accordance with Regulation 4(3)(ii) of the 2014 Tariff Regulation. Regulation 4(3)(ii) 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:

....

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



16. The petitioner has submitted RLDC certificate issued by NRLDC, POSOCO in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation for Combined Asset-I, II & III. Accordingly, the commercial operation date of the Combined Asset-I, II& III have been considered as 8.5.2016.

Capital Cost

17. Regulation 9 (1), 9(2) and 10 (1) of the 2014 Tariff Regulations with regard to capital cost of the project provides as follows:-

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

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

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

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



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

Time Over-run

18. As per the investment approval, the commissioning schedule of the project was 36 months from the date of investment approval. The investment approval was accorded on 16.2.2009 and the schedule date of commercial operation was 15.2.2012. Therefore there is time over-run of 50 months and 23 days in commissioning of Combined Asset-I, II & III. The petitioner has submitted below reasons for time over-run:-

RoW problems:

19. The petitioner submitted that during construction of both circuits of 400 kV D/C (Quard) Meerut- Kaithal Line and associated bays, it has faced various ROW problems. ROW problems started on 18.10.2010 at various locations in Village: Idrispur, Distt: Bagpat. The work was started forcefully in the presence of local police officials but was further interrupted. Various meeting were held between DM-Bagpat and MLA along with local villagers. The villagers were stick to their uneven demands, however, the petitioner shows limitation to provide compensation as per law. The meeting failed to deliver any conclusion. The



matter became very serious and the agitation by the Villagers turned into movement and spread in Bagpat, Muzzafannagar& Saharanpur.

20. The petitioner submitted that it has continuously followed up the matter with administration, Kisan Sangh, and local villagers for approximately 8 months. The local administration (DM- Bagpat), again hold up a meeting with MLA. The meeting again ended with no result. However, the daily publishing of article against the petitioner in newspapers also resulted in increase agitation. This was the main reason of delay in commissioning of transmission line. The foundation work at 1 location was started with police protection however; the work was again stopped by Kisan Union and Villagers.

21. The petitioner submitted that the work at the various locations where stringing work was going on was hampered. The Kisan Sangh along with some more villagers became aggressive and mishandled the petitioner's officials along with workers doing execution of transmission line.

22. The petitioner submitted that it has somehow managed to execute the work in stretches which are free from agitation in village Tikri, in August-2014. The work there also stopped by the villagers along with the help of Kisan Sangh due to which the situation become worst in between Kisan Sangh and petitioner officials which resulted in geared up agitation. The total work under this area presumed under Police protection. On 23.4.2015, DM-Bagpat then conciliated the situation and the matter came to an end.



23. The petitioner further submitted that on 14.8.2015, the considerable amount of conductor was stolen from the completed section in Village: Badoli and Johadi, in Badaut. The matter has been investigated by the Police and then after a long endeavor, police succeeded to arrest the gang. The gang confessed that they had stolen the conductor. Further submitted that, due to conductor theft, some of the towers bended and required dismantling and rectification of some sections. The fabrication of damaged tower sections along with conductor and its execution has further delayed the completion to about 3 months.

Delay in land acquisition:

24. The petitioner submitted that the delay in commissioning of Asset II & III is due to delay in land acquisition of 400/220 kV Bagpat Sub-station. The petitioner has approached for Land Acquisition prior to the Investment approval. On 30.04.2008, petitioner submitted the proposal for identification of land for construction of 400/220 kV Bagpat Sub-station with total area of approx. 15 acres near Bagpat on Bagpat-Meerut road to DM, Bagpat. The regular correspondence in respect to land acquisition with concerned authorities was carried out and the authority shows limitation to provide only 9.6 acres of land on Bagpat-Meerut road in Village- Tiyori, Distt: Bagpat. In order to cater the increased demand of power in future, the petitioner on 17.9.2008 further requested DM- Bagpat to increase the land area from 9.6 acres to 18.5 acres as more amount of land is required during its extension



25. The petitioner submitted that a joint inspection between the petitioner and land acquisition dept. officials was carried out and the land of about 18.50 acres was identified in Village- Tiyodi, Distt: Bagpat. The proposal was then re-submitted on 24.11.2008 to DM- Bagpat. Further, the court case was filed by land owner against for acquisition of land for 400/220 kV Bagpat substation stating that a portion of land (about 0.4840 Ha) (triangular in shape left unacquired from his total land proposed for acquisition is of no use and the same may be also acquired. The land owner also demanded the necessary compensation against this portion of land. The petitioner submitted that the ADM (L.A)- Meerut advised petitioner to finalize the compensation with land owners as per Land Acquisition Act such that none of the land owner remains unsatisfied. In order to settle the writ petition the petitioner further forwarded the request letter to initiate the process for acquisition of 0.4840 Ha of remaining land at Khasra to ADM (L.A), Meerut on 27.4.2010.

26. The petitioner submitted that meanwhile the ADM (L.A) got transferred and DM- Bagpat informed the petitioner that the award letter shall be issued only after joining of new ADM (L.A). The new ADM (L.A) joined the office and informed that he further have to visit site for Joint inspection on 29.9.2011. The site visit was conducted and after completion of site visit, necessary compensation disbursement details of land owners forwarded to DM- Bagpat office. The possession letter in favour of the petitioner was issued on 3.11.2011 by ADM (L.A)-Meerut.



27. The petitioner further submitted that it has initiated the process of land acquisition much before the investment Approval so that the petitioner could get the possession of land by November, 2009 as per L2 Network. However, the petitioner got possession on 3.11.2011 after 24 months w.r.t. L2 network. The petitioner submitted that the further delay in commissioning of Asset-II & III is mainly due to delay in commissioning of Asset-I.

28. UPPCL has made a prayer that the petitioner should submit the details of work done during first twenty months starting from the date of investment approval and details of work hindered during agitation period along with the certificate of CA/ICWA in this regard.

29. From the above submissions of the petitioner, it is observed that it has faced continuous ROW Problem at various locations on the route of the instant transmission line. Petitioner faced severe agitation from the local villagers and faced continuous obstruction caused by the land owners and local villagers. The petitioner has submitted chronology of events from which it can be seen that it took almost 53 months to resolve ROW issue. Further there was delay of 3 months due to theft. The petitioner has submitted multiple paper cutting of all the ROW problems faced by the petitioner at various locations. We have gone through the submissions of the petitioner and are of the view that the time over-run 50 months and 23 days in commissioning of the Asset-I is beyond the control of the petitioner and it cannot be attributed to the petitioner. Further, as delay in commissioning of Asset-II & III is mainly due to delay in commissioning of Asset-



I, time over-run 50 months and 23 days in commissioning of the Asset-II & III is also condoned. Accordingly, the time over-run for the instant asset is condoned and IDC and IEDC for the delay are allowed to be capitalised.

Cost over-run

30. There was cost over-run in case of Asset-I, II & III. The petitioner has submitted that cost over-run is due to various market forces and the pricing strategies followed by bidder. Further, as per Form-5 it is observed that cost over-run is due to increase in crop and tree compensation as per demand, increase in hardware fittings, increase in land cost, increase in rate of switchgear, high bid price for compensating equipments. Further, increase in cost of miscellaneous civil works as storm water drainage/ bridge/ culverts was not envisaged in FR. In this regard the Commission directed the petitioner to submit the RCE. The petitioner has submitted RCE vide affidavit dated 23.6.2016. We have considered petitioners submission and have allowed the estimated completion cost claimed by the petitioner which is within the RCE cost. The details of apportioned approved cost, capital cost as on date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the Combined Asset-I, II & III is as under:-

							(₹ in lakh)
Asset combination submitted in petition	Approved apportioned cost as per FR	Asset combination submitted vide additional information	Approved apportioned cost as per RCE	Capital cost as on COD	Projected Additional capitalization		Total estimated completion cost
					2016-17	2017-18	
Asset-I	20144.93	Combined Asset-I, II & III	37431.89	28046.58	2883.56	1065.73	31995.87
Asset-II	1576.47						



Asset combination submitted in petition	Approved apportioned cost as per FR	Asset combination submitted provide additional information	Approved apportioned cost as per RCE	Capital cost as on COD	Projected Additional capitalization		Total estimated completion cost
					2016-17	2017-18	
Asset-III	8089.92	III					

Treatment of Initial spares

31. 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%”

32. The petitioner has claimed initial spares of 1% and 4.40% for transmission line and Sub-station within the ceiling limit specified in the 2014 Tariff Regulations for Combined Asset-I, II & III. UPPCL has submitted that the petitioner has claimed initial spares within the limit yet it is the percentage of increased capital cost of the whole project. In this regard the petitioner should submit the clarification. We have considered petitioners and respondent submission and accordingly, the capital cost considered as on the date of COD for Combined Asset-I, II & III is as follows:-



(₹ in lakh)	
Particulars	Combined Asset-I, II & III
Capital cost as on COD	28798.68
Accrual IDC upto COD	752.10
Capital cost as on COD considered for tariff computation	28046.58

Additional Capital Expenditure

33. The petitioner has projected additional capitalization for the years 2016-17 and 2017-18 towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. In the absence of RCE we have restricted the completion cost to approved apportioned cost and accordingly the additional capitalization has been approved.

34. 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.”

35. The cut-off date for Combined Asset-I, II & III works out to be 31.3.2019. The additional capitalization claimed by the petitioner is within the cut-off date. In view of the above, the additional capitalization is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations after restricting it to approved apportioned cost. In addition to above we have also considered petitioners submission regarding discharge of IDC after COD for Combined Asset-I, II & III. The details of additional capitalization allowed is as follows:-



Cost as per Investment Approval is ₹37431.89 lakh						
Particulars (Combine d Asset-I, II & III)	Capital cost as on 8.5.2016	Additional capitalisation projected			Total addition al capitalis ation	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
Approved	28046.58	2883.56	1065.73	0.00	3949.29	31995.87

Debt:Equity Ratio

36. 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:

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

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.”

37. The petitioner has considered debt:equity ratio as 70:30 as on COD and for additional capitalization in Form-6 for all the assets. However, in Form-9C i.e. calculation of weighted average rate of interest on actual loans the petitioner has submitted that there is no drawl during the year. It is evident from Form-9C that petitioner has proposed to finance entire additional capitalization from equity for all the assets. We have considered normative debt:equity ratio of 70:30 as on COD and for additional capitalization. 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:-



Combined Asset-I, II & III	(₹ in lakh)					
	As on 8.5.2016		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	19632.61	70.00	2764.50	70.00	22397.11	70.00
Equity	8413.97	30.00	1184.79	30.00	9598.76	30.00
Total	28046.58	100.00	3949.29	100.00	31995.87	100.00

Interest on Loan ("IOL")

38. 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.”

39. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2016. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner's prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be



considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure** and the IOL has been worked out as follows:-

	(₹ in lakh)		
(Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	19632.61	21651.10	22397.11
Cumulative Repayment upto COD/previous year	0.00	1318.03	2884.21
Net Loan-Opening	19632.61	20333.07	19512.90
Additions during the year	2018.49	746.01	0.00
Repayment during the year	1318.03	1566.18	1592.77
Net Loan-Closing	20333.07	19512.90	17920.13
Average Loan	19982.84	19922.99	18716.52
Rate of Interest (%)	9.0359	9.0357	9.0345
Interest	1622.59	1800.18	1690.94

Return on Equity("ROE")

40. 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:
xxx”

“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.”

41. The petitioner has computed ROE at the rate of 19.705% for the period 2016-19 after grossing up the ROE with MAT rate as per the above Regulation. The Petitioner has considered the MAT Rate of 21.34% for the period 2016-19. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

42. 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.

43. 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 tax was paid at MAT rate is applicable to the petitioner’s company. We have considered the MAT rate



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

	(₹ in lakh)		
(Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	8413.97	9279.04	9598.76
Addition to Equity during the year	865.07	319.72	0.00
Closing Equity	9279.04	9598.76	9598.76
Average Equity	8846.51	9438.90	9598.76
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT 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)	1558.94	1850.97	1882.32

Depreciation

44. 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.”

45. 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”

46. The petitioner has computed depreciation considering capital expenditure of ₹28046.58 lakh as on COD and additional capitalization of ₹2883.56 lakh and ₹1065.73 lakh for 2016-17 and 2017-18 respectively for Combined Asset-I, II & III.

47. We have computed depreciation considering capital expenditure and additional capitalization approved in this order. The weighted average useful life of the Combined Asset-I, II & III has been considered as 31 in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)			
(Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross block	28046.58	30930.14	31995.87
Additional Capitalisation	2883.56	1065.73	0.00
Gross block at the end of the year	30930.14	31995.87	31995.87



(Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Average gross block	29488.36	31463.01	31995.87
Rate of Depreciation (%)	4.974	4.978	4.978
Depreciable Value	25240.53	27017.71	27497.29
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	31	30	29
Remaining Depreciable Value	25240.53	25699.68	24613.08
Depreciation	1318.03	1566.18	1592.77

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

48. The petitioner has computed normative O&M Expenses as per Regulation 29(4)(a) of the 2014 Tariff Regulations. We have worked out O&M as per Regulation 29(4)(a) of the 2014 Tariff Regulations and allowed as given hereunder:-

(₹ in lakh)			
Particulars (Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Line (₹ lakh/km)			
Double Circuit (Bundled Conductor with four sub conductors)	1.133	1.171	1.210
Line (kms)			
400 kV D/C Meerut-Bagpat T/L (Loop in portion)	30.157	30.157	30.157
400 kV D/C kaithal-Bagpat T/L (Loop out portion)	30.791	30.791	30.791
Total O&M expense (Line) (₹ Lakh)	69.05	71.37	73.75
O&M Expenses for Bays			
Norm (₹ lakh/Bay)			
400 kV	64.37	66.51	68.71
220 kV	45.06	46.55	48.10
Bays			
400 kV	6	6	6
220 kV	2	2	2
Total O&M expense (Bay) (₹ lakh)	476.34	492.16	508.46
Total O&M expense (Line & Bay) (Rs. Lakh)*	490.11	563.53	582.21

*Petitioner's claim is lower than the approved. We have computed as per the Regulation.



49. 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.

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, 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")

51. 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 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including 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 as on 1.4.2016 was 9.30% plus 350 basis points).

52. Computations in support of interest on working capital allowed are as follows:-

(₹ in lakh)			
Particulars (Combined Asset-I, II & III)	2016-17	2017-18	2018-19
Maintenance Spares	73.52	84.53	87.33
O & M expenses	40.84	46.96	48.52
Receivables	852.23	987.34	981.88
Total	966.59	1118.84	1117.73
Rate of Interest (%)	12.80	12.80	12.80
Interest	123.72	143.21	143.07

Annual Transmission Charges

53. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)			
Particulars (Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Gross Block			
Gross Opening Block	28046.58	30930.14	31995.87
Additional Capitalisation	2883.56	1065.73	0.00
Gross Closing Block	30930.14	31995.87	31995.87
Average Gross Block	29488.36	31463.01	31995.87
Depreciation			
Rate of Depreciation (%)	4.974	4.978	4.978
Depreciable Value	25240.53	27017.71	27497.29
Elapsed Life (Beginning of the year)	0	1	2
Weighted Balance Useful life of the assets	31	30	29
Remaining Depreciable Value	25240.53	25699.68	24613.08
Depreciation	1318.03	1566.18	1592.77



Particulars (Combined Asset-I, II & III)	2016-17 (pro-rata)	2017-18	2018-19
Interest on Loan			
Gross Normative Loan	19632.61	21651.10	22397.11
Cumulative Repayment upto Previous Year	0.00	1318.03	2884.21
Net Loan-Opening	19632.61	20333.07	19512.90
Addition due to Additional Capitalisation	2018.49	746.01	0.00
Repayment during the year	1318.03	1566.18	1592.77
Net Loan-Closing	20333.07	19512.90	17920.13
Average Loan	19982.84	19922.99	18716.52
Weighted Average Rate of Interest on Loan (%)	9.0359	9.0357	9.0345
Interest	1622.59	1800.18	1690.94
Return on Equity			
Opening Equity	8413.97	9279.04	9598.76
Addition due to Additional Capitalisation	865.07	319.72	0.00
Closing Equity	9279.04	9598.76	9598.76
Average Equity	8846.51	9438.90	9598.76
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT 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)	1558.94	1850.97	1882.32
Interest on Working Capital			
Maintenance Spares	73.52	84.53	87.33
O & M expenses	40.84	46.96	48.52
Receivables	852.23	987.34	981.88
Total	966.59	1118.84	1117.73
Interest	123.72	143.21	143.07
Annual Transmission Charges			
Depreciation	1318.03	1566.18	1592.77
Interest on Loan	1622.59	1800.18	1690.94
Return on Equity	1558.94	1850.97	1882.32
Interest on Working Capital	123.72	143.21	143.07
O & M Expenses	490.11	563.53	582.21
Total	5113.40	5924.07	5891.31



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 42 of the 2009 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 Regulation 42 of the 2009 Tariff Regulations.

Licence Fee

55. The petitioner has requested to allow the petitioner to bill and recover Licence fee separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Clause (1)(b) of Regulation 42A of the 2009 Tariff Regulations.

Service Tax

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

Reimbursement of GST:

57. The petitioner has sought reimbursement of tax if any on account of the proposed implementation of GST w.e.f. 1.4.2016. However, it is observed that



GST has not been implemented till date therefore we are of the view that the petitioner's prayer of service tax is premature.

Sharing of Transmission Charges

58. 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.

59. This order disposes of Petition No. 253/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member

ANNEXURE



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**(₹ in lakh)**

Particulars (Combined Asset I, II & III)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXX-DOCO-	8.80%	1900	0	1900.00
BOND XXXI-DOCO-	8.90%	1730	0	1730.00
BOND XXXIII-DOCO-	8.64%	1800	0	1800.00
BOND XXXIV-DOCO-	8.84%	528	0	528.00
BOND XXXV-DOCO-	9.64%	816.58	0	816.58
BOND XXXVI-DOCO-	9.35%	967	0	967.00
BOND XXXVII-DOCO-	9.25%	2600	0	2600.00
BOND XXXVIII-DOCO-	9.25%	1750	0	1750.00
BOND XL-DOCO-	9.30%	424.7	0	424.70
BOND XLI-DOCO-	8.85%	300	0	300.00
BOND XLII-DOCO-	8.80%	1000	0	1000.00
BOND XLIII-DOCO-	7.93%	106	0	106.00
BOND XLIV-DOCO-	9.65%	800	0	800.00
SBI (2014-15)-DOCO	9.55%	1237.83	0	1237.83
BOND XLVI-DOCO-	9.30%	1322.66	0	1322.66
BOND XLVIII-DOCO-	8.20%	400	0	400.00
BOND XLIX-DOCO-	8.15%	243.83	0	243.83
BOND L-DOCO-	8.40%	930	0	930.00
BOND LI-DOCO-	8.40%	776	0	776.00
Total		19632.60	0.00	19632.60

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19**(₹ in lakh)**

Particulars (Combined Asset-I, II & III)	2016-17	2017-18	2018-19
Gross Opening Loan	19632.6	19632.6	19632.6
Cumulative Repayment of loan upto previous year	1580.22	2486.3	3467.88
Net Loan Opening	18052.38	17146.3	16164.72
Additions during the year	0	0	0
Repayment during the year	906.08	981.58	981.58
Net Loan Closing	17146.3	16164.72	15183.14
Average Loan	17599.34	16655.51	15673.93
Weighted Average Rate of Interest	9.0359%	9.0357%	9.0345%
Interest	1590.26	1504.94	1416.06

