CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 324/GT/2014

Coram:
Shri A.S. Bakshi, Member
Dr. M. K. Iyer, Member

Date of Order : 2.5.2017

In the matter of

Approval of tariff of National Capital Thermal Power Station Stage-II (2x490 MW) for the period from 1.4.2014 to 31.3.2019

And in the matter of

NTPC Ltd
NTPC Bhawan,
Core-7, SCOPE Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003) **.....Petitioner**

Vs

1. Uttar Pradesh Power Corporation Limited
Shakti Bhawan
14, Ashok Marg
Lucknow- 226001

2. Tata Power Delhi Distribution Ltd.,
Grid Sub-station Hudson Road,
Kingsway Camp, Delhi-110009

3. BSES-Rajdhani Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi - 110019

4. BSES-Yamuna Power Ltd.,
Shakti Kiran Building, Karkardooma,
Delhi- 110072 **……….Respondents**

Parties present:-

For Petitioner: Shri Pasian Siran, NTPC
Shri Ajay Dua, NTPC
Shri E. P. Rao, NTPC
Shri Sameer Agarwal, NTPC
Shri Vivek Kumar, NTPC
Shri Rajeev Choudhary, NTPC

For Respondents: Shri Manish Garg, CA, UPPCL
Shri Varun Shankar, Advocate, TPDDL
Shri R. B. Sharma, Advocate, BRPL
Shri Sameer Singh, BYPL
Shri Nishant Grover, BYPL

ORDER

This petition has been filed by the petitioner, NTPC for approval of tariff of National Capital Thermal Power Station Stage-II (2x490 MW) (hereinafter referred to as "the generating station") for the period 20014-19 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The generating station with a capacity of 980 MW comprises of two units of 490 MW each and the said units were declared under commercial operation on 31.1.2010 and 31.7.2010, respectively.

3. Petition No.14/2010 was filed by the petitioner for determination of tariff of the generating station for the period 2009-14 and the Commission by its order dated 30.9.2011 determined the annual fixed charges for generating station. Subsequently, the petitioner filed Petition No. 17/GT/2013 on 6.8.2012 for revision of tariff based on truing up exercise for the period 2009-14 covering the actual capital expenditure for the period 2009-12 and projected additional capital expenditure for the period 2012-14. The Commission by its order dated 4.12.2014 in Petition No. 17/GT/2013 had approved the tariff of the generating station for the period 2009-14 considering the capital cost as on COD of ₹208033.47 lakh in case of Unit-1 and ₹404125.12 lakh in case of Unit-2. Aggrieved by the said order dated 4.12.2014, the petitioner had filed a review petition (Petition No. 2/RP/2015) and the same was allowed by order dated 18.3.2015. The Commission in the said order also observed that, the impact and rectification errors should be considered in the revision of tariff after true up in terms of Regulation 6(1) of the 2009 Tariff Regulations. Thereafter, in Petition No. 300/GT/2014 filed by the petitioner for truing-up of tariff in terms of the proviso to clause 6(1) of the

2009 Tariff Regulations, the Commission vide order dated 23.8.2016 revised the annul fixed charges of the generating station based on the actual additional capital expenditure incurred for the period 2009-14 and also revised the capital cost as on COD to ₹208033.46 lakh in case of Unit-1 and ₹402605.72 lakh in case of Unit-2. Accordingly, the annual fixed charges approved in the said order dated 23.8.2016 for this generating station is as under:

(₹ in lakh)

	2009-10 (31.1.2010 to 31.3.2010)	**2010-11 (1.4.2010 to 30.7.2010)**	**2010-11 (31.7.2010 to 31.3.2011)**	**2011-12**	**2012-13**	**2013-14**
Return on Equity	15403.80	15840.12	30079.97	31711.76	33561.85	35582.23
Interest on Loan	12865.43	13019.28	24932.62	26918.04	26480.40	25451.61
Depreciation	10534.14	10960.52	20775.32	22125.10	23380.01	24176.71
O&M Expenses	6370.00	6732.60	13465.20	14239.40	15052.80	15915.20
Interest on Working Capital	4171.44	4213.03	8146.36	8294.74	8368.99	8445.88
Cost of secondary fuel oil	1009.04	1009.04	2181.64	2187.61	2181.64	2181.64
Total	**50353.83**	**51774.59**	**99581.10**	**105476.65**	**109025.70**	**111753.26**

4. The petitioner vide its affidavit dated 14.8.2014 filed Petition No. 324/GT/2014 for approval of tariff for National Capital Thermal Power Station Stage-II (2x490 MW) for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Also, the petitioner vide its affidavit dated 15.9.2014 filed Petition No. 377/TT/2014 for approval of tariff for 400 kV D/C Dadri-Loni Road transmission line for the period 2014-19 for supplying power from Dadri Station to Delhi Discoms viz, BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL) and Tata Power Delhi Distribution Limited (TPDDL).

5. Thereafter, the Commission vide its order dated 20.04.2015 in Petition No 377/TT/2014 decided that the transmission line from NCTPS Stage-II, Dadri to Delhi being a dedicated transmission line is a part of the generating station of Dadri and its tariff should be determined as a part of generation tariff of NCTPS Stage-II, Dadri. Accordingly, the petitioner was directed to claim tariff for the instant transmission line as part of the generation tariff of NCTPS Stage-II, Dadri as under:-

"9. From the above provision it emerges that a dedicated transmission line is a point to point connection from the generating station to any transmission station or generating station or the load centre for evacuation of power from the generating station. It is the duty of the generating station to construct, own, operate and maintain the dedicated transmission line for which it is not required to obtain a licence under Section 12 of the Act. In other words, a dedicated transmission line is for all purposes a part of the generating station. In present case, the 400 kV transmission line is admittedly a dedicated transmission line executed by the petitioner for evacuation of power for NCTPS Stage II Dadri Station till the Loni Road Sub-station of Delhi Transco Ltd. It is not part of any meshed network and cannot be utilized by any other person for evacuation of power. We are of the view that the instant transmission line being part of the generating station, its tariff should be determined as part of generation tariff. Accordingly, the petitioner is directed to claim tariff for the instant transmission line as part of the generation tariff of NCTPS State II Dadri Station. The licence fee deposited by the petitioner shall be adjusted against the filing fee for the NCTPS State II Dadri Station."

6. In compliance with the above direction, the petitioner vide its affidavit dated 18.4.2016 has filed revised Petition No. 324/GT/2014 incorporating the transmission tariff in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges claimed by the petitioner for the period 2014-19 in this petition are as under:

Capital Cost

<u>National Capital Thermal Power Station Stage-II (2x490 MW)</u>

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Capital Cost	492532.52	495857.19	497271.18	497271.18	498561.18
Add: Additional capital expenditure	3324.67	1413.99	0.00	1290.00	6104.92
Closing Capital Cost	**495857.19**	**497271.18**	**497271.18**	**498561.18**	**504666.10**
Average Capital Cost	**494194.85**	**496564.18**	**497271.18**	**497916.18**	**501613.64**

<u>400 kV D/C Dadri-Loni Road Transmission Line</u>

(₹ in lakh)

	2014-15 (From 02.08.2014 to 07.09.2014)	**2014-15 (From 08.09.2014 to 31.03.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Capital Cost	5126.66	10583.53	10743.77	11097.77	11097.77	11097.77
Add: Additional capital expenditure	0.00	160.24	354.00	0.00	0.00	0.00
Closing Capital Cost	5126.66	10743.77	11097.77	11097.77	11097.77	11097.77
Average Capital Cost	5126.66	10663.65	10920.77	11097.77	11097.77	11097.77

Annual Fixed Charges

<u>National Capital Thermal Power Station Stage-II (2x490 MW)</u>

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	24920.27	25039.75	25075.40	25107.92	25294.37
Interest on Loan	23395.76	21012.95	18637.67	16278.44	14144.80
Return on Equity	30641.57	31115.89	31160.19	31200.61	31432.30
Interest on Working Capital	12801.92	12850.39	12836.12	12853.76	12888.86
O&M Expenses	15867.32	16869.01	17930.26	19060.91	20261.02
Total	**107626.83**	**106887.98**	**105639.63**	**104501.64**	**104021.35**

400 kV D/C Dadri-Loni Road Transmission Line

(₹ in lakh)

	2014-15 (From 02.08.2014 to 07.09.2014)	2014-15 (From 08.09.2014 to 31.03.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	270.69	563.04	576.62	585.96	585.96	585.96
Interest on Loan	341.43	695.19	664.58	619.66	563.23	507.94
Return on Equity	317.87	661.18	684.32	695.41	695.41	695.41
Interest on Working Capital	23.49	46.26	46.47	45.98	44.75	43.56
O&M Expenses	37.67	37.67	38.95	40.23	41.56	42.95
Total	**991.14**	**2003.34**	**2010.94**	**1987.24**	**1930.92**	**1875.82**

7. In compliance with the directions of the Commission, the petitioner has filed additional information and has served copies of the same on the respondents. The respondents, Uttar Pradesh Power Corporation Limited (UPPCL), Tata Power Delhi Distribution Limited (TPDDL), BSES Rajdhani Power Limited (BRPL), and BSES Yamuna Power Limited (BYPL) have filed their replies in the matter and the petitioner has filed its rejoinder to the said replies.

8. The Respondent No. 4, BYPL has requested the Commission to direct petitioner to furnish Form 17, Form 18 and Form 19. In response, the petitioner vide affidavit dated 20.6.2016 has submitted that the information like furnishing of Form-17, Form-18 and Form-19 will be submitted at the time of truing up petition for the period 2014-19.

9. We now proceed to examine the claim of the petitioner based on the submissions of the parties and the documents available on record, as discussed in the subsequent paragraphs.

Date of Commercial Operation ("COD")

10. The petitioner has claimed the date of the commercial operation of the National Capital Thermal Power Station Stage-II (2x490 MW) and 400 kV D/C Dadri-Loni Road transmission line as follows:-

Assets	**COD**
National Capital Thermal Power Station Stage-II, Unit-1	31.1.2010
National Capital Thermal Power Station Stage-II, Unit-2	31.7.2010
400 kV D/C Dadri-Loni Road transmission line, ckt-1	02.08.2014
400 kV D/C Dadri-Loni Road transmission line, ckt-2	08.09.2014

11. The Commission in order dated had 30.9.2011 in Petition No. 14/2010 had approved the COD of Unit-1 and Unit-2 of National Capital Thermal Power Station Stage-II as 31.1.2010 and 31.7.2010, respectively.

12. 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:
> (i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations :
>
> (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."

13. The petitioner has submitted RLDC certificate issued by WRLDC, POSOCO for ckt-1 and ckt-2 of 400 kV D/C Dadri-Loni road transmission line 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.

14. Accordingly, the commercial operation date of the ckt-1 and ckt-2 of 400 kV D/C Dadri-Loni road transmission line has been considered as given in the table above and the tariff is worked out from COD to 31.3.2019.

Capital Cost of National Capital Thermal Power Station Stage-II (2x490 MW) as on 1.4.2014

15. Clause 3 of Regulation 9 of the 2014 Tariff Regulations provides as under:

"The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly tured up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15."

16. The annual fixed charges claimed in the petition are based on opening capital cost of ₹492532.52 lakh as on 1.4.2014, as against the closing capital cost of ₹492158.64 lakh as on 31.3.2014 as admitted by the Commission vide order dated 23.8.2016 in Petition No. 300/GT/2014. The Commission vide order dated 23.8.2016 in Petition No. 300/GT/2014 has admitted the closing capital cost of ₹492158.64 lakh as on 31.3.2014. The closing capital cost as on 31.3.2014 as admitted by the Commission vide order dated 23.8.2016 in Petition No. 300/GT/2014 has been considered as the opening capital cost for the purpose of determination of tariff for the period 2014-19. Accordingly, in terms of the above provision of the 2014 Tariff Regulations, the admitted closing capital cost of ₹492158.64 lakh as on 31.3.2014 is considered as opening capital cost as on 1.4.2014 for the period 2014-19.

Capital Cost of 400 kV D/C Dadri-Loni Road Transmission Line as on COD

17. The details of apportioned approved cost as per FR, capital cost as on date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the instant assets as submitted by the petitioner are as under:-

(₹ in lakh)

Approved apportioned cost as per FR: ₹4735.20 lakh

Revised Apportioned Cost as per RCE: ₹11142.00 lakh (including consultancy charges of ₹1001.00 lakh and IDC of ₹2261.00 lakh (based on first quarter 2016 price level))

	Capital cost upto COD 2.8.2014 (COD of ckt 1)	Additional capital expenditure 2014-15 (From 02.08.2014 to 07.09.2014)	Capital cost upto COD 8.9.2014 (COD of ckt 2)	Additional capital expenditure					Total estimated completion cost
				2014-15 (From 08.09.2014 to 31.03.2015)	2015-16	2016-17	2017-18	2018-19	
Asset	5126.66	0.00	10583.53	160.24	354.00	0.00	0.00	0.00	11097.77

18. The Respondent No. 1, UPPCL has submitted that the instant transmission line, i.e. 400 kV D/C Dadri-Loni road dedicated transmission line is exclusively for the benefit of Delhi Discoms viz. BRPL, BYPL and TPDDL. As UPPCL is not a beneficiary of this dedicated transmission line, it is requested that tariff of dedicated transmission line is not passed on to M/s UPPCL.

19. With regard to the methodology laid down in order dated 28.1.2015 in Petition No 239/2010 for 400 kV D/C Jhajjar-Mundaka transmission line of Aravali Power Company Private Limited, UPPCL has further submitted that in such case beneficiaries of transmission line and beneficiaries of generating station are same, however, in this instant petition, it is not so. Accordingly, UPPCL has requested the Commission to separate the tariff of this dedicated transmission line from tariff of generating station as it may result in operational difficulties later on.

20. Further, Respondent No. 3, BRPL has submitted that in case of existing projects, the capital cost admitted by the Commission as on 1.4.2014 and the additional capital expenditure projected to be incurred for the respective year of period 2014-19 shall form the basis for determination of tariff for the period 2014-19. The respondent has further submitted that in case of National Capital Super Thermal Power Station, Stage-II (2x4900 MW), the capital cost as on 1.4.2014 is yet to be

determined by the Commission, as the Petition No. 300/GT/2014 in the matter of revision of tariff after true up for the year 2013-14, is pending. BRPL has further submitted that the capital cost as admitted by the Commission in Petition No. 300/GT/2014 shall form the basis for tariff determination for tariff period 2014-19. In response, the petitioner submitted that opening capital cost as on 01.04.2014 considered by the petitioner in the instant petition is equal to the closing capital cost as on 31.03.2014 in the true-up Petition No. 300/GT/2014, which is under consideration of the Commission. However, the closing capital cost as finally admitted by the Commission in the true-up petition 300/GT/2014 has been considered as the opening capital cost for 2014-19 for the instant station.

21. The petitioner has further submitted that as per the agreements signed by petitioner with distribution companies of Delhi namely BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL) and Tata Power Delhi Distribution Limited (TPDDL) (Formerly NDPL), the entire transmission charge for 400 kV D/C Dadri Loni road transmission line shall be payable by BRPL, BYPL & TPDDL. The petitioner has further submitted that the agreements also provide that losses in the transmission line shall also to be borne by BRPL, BYPL & TPDDL. Further, based on the methodology laid down by the Commission in Petition No 239/2010 in respect of 400 kV D/C Jhajjar-Mundka transmission line of Aravali Power Company Private Limited, the petitioner in the instant petition has also kept the tariff of this dedicated transmission line as a separate stream from tariff of generating station in order to facilitate the billing related to this transmission line to BRPL, BYPL & TPDDL only.

22. Regulations 9 and 10 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) 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.

…

(6) The following shall be excluded or removed from the capital cost of the existing and new project:

a) The assets forming part of the project, but not in use;
b) Decapitalisation of Asset;
c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two stage transparent process of bidding; and
d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

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 petitioner was asked to submit the Auditor’s Certificate for capital cost incurred as on actual COD for the Dadri-Loni road transmission line indicating actual payment made on cash basis and balance payments to be made. In response, the petitioner vide its affidavit dated 14.9.2016 has submitted the Auditor’s Certificate for capital cost incurred as on actual COD for the said transmission line on cash basis. Accordingly, the actual capital cost incurred for the subject assets has been considered as below:-

(₹ in lakh)

Particulars	**Capital cost considered before adjustment of IDC/IEDC & initial spares as on COD**
Ckt-1 of the 400 kV D/C Dadri-Loni Road Transmission Line as on COD (2.8.2014)	5126.66

Particulars	Capital cost considered before adjustment of IDC/IEDC & initial spares as on COD
Ckt-1 and 2 of the 400 kV D/C Dadri-Loni Road Transmission Line as on COD of ckt-2 (8.9.2014)	10583.53

Cost Over-run

24. The investment approval to the 44.00 km of 400 kV transmission line associated with NCTPP-Dadri Stage-II (2x490 MW) was approved in agreement signed between PGCIL and NTPC dated 12.6.2009 for ₹4735.20 lakh (including IDC and consultancy charges) based on 4th quarter 2008 price level. Subsequently, as the line length was increased from 44.00 km to 54.18 km, Revised Cost Estimate (RCE) for the transmission line was approved in agreement signed between PGCIL and NTPC dated 27.8.2010 for at an estimated cost of ₹5830.80 lakh (including IDC and consultancy charges). Further, Revised Cost Estimate (RCE) for the transmission line during 439th meeting of the Board of Directors of the petitioner company held on 28.10.2016 (including IDC and consultancy charges) was estimated as ₹11142.00 lakh, which included consultancy charges of ₹1001.00 lakh and IDC of ₹2261.00 lakh (based on first quarter 2016 price level). However, as submitted in Form 2, the petitioner has claimed tariff for 53.284 km of line length.

25. The petitioner has claimed the capital cost of ₹10583.53 lakh as on 8.9.2014, which was substantially higher in comparison to the RCE cost of ₹5830.80 lakh. In this regard, the petitioner was directed to provide complete justification for increase in the cost with documentary evidence. In response, the petitioner vide its affidavit dated 19.8.2016 has submitted that as per Agreement dated 12.6.2009, consultancy fees @ 15% of the project cost and service tax at the rate of 10.3% on consultancy fees is to be paid by NTPC to PGCIL. Accordingly, the petitioner has submitted that consultation charges and service tax of ₹ 965.20 lakh has been computed as under:-

consultation charges = ₹5830.80 lakh*15% + Service Tax

= (₹5830.80 lakh*15%) + (₹5830.80 lakh*15% * 10.30%)

26. The petitioner has further submitted that payment of ₹343.42 lakh was paid to various Govt agencies such as forest, railway, UPPTCL, PVVNL etc. Further, as per Agreement dated

12.06.2009, the statutory taxes and duties levied by the State/ Central Govt for executing the work amounting to ₹372.89 lakh has been paid by NTPC. In this regard, the petitioner has submitted copy of relevant documents. The petitioner has submitted the breakup of approved cost of project vis-a-vis the actual capitalization as on COD of ckt-2 of 400 kV Dadri Loni road transmission line, i.e. 8.9.2014 as under:-

S. No.	**Particulars**	**Estimated Amount (₹ in lakh)**	**Actual Amount on cash basis (₹ in lakh)**
a	Project Cost (excluding consultation charges, service tax, IDC, taxes and duties and payment to government departments)	5830.80	
b	Consultation charges and service tax	965.20	
c	Project Cost (including consultation charges and service tax)) (c=a+b)	6796.00	
d	For NOC, payment by NTPC to various govt. departments such as Forest, Railway, UPPTCL, PVVNL, CEA, etc	343.42	
e	Payment by NTPC to Powergrid as statutory taxes and duties	372.89	
f	**Total project cost [f = {c x (1+10%)}# + d + e]**	**8191.37**	**8322.82**
g	Interest during construction (IDC)# (g)	645.96 (=587.24 x (1+10%)]	2260.71
h	**Total Project Cost (including IDC) (h=f+g)**	**8837.33**	**10583.53**

10% variation in cost is as per Supplementary Agreement dated 21.3.2011 signed between NTPC and Powergrid

27. Further, the petitioner has submitted that actual project cost is ₹8322.82 lakh, against estimated cost of ₹8191.37 lakh and the increase in total project cost (excluding IDC) is ₹131.45 lakh only. The petitioner has further submitted that the increase in IDC is mainly due to the reason that such 54.18 km transmission line passes through 03 districts of UP namely Gautam Budh Nagar, Hapur and Ghaziabad. Since the market value of the land in such areas is quite high, the landowners vehemently opposed the erection works of the transmission line and this resulted in continuous disruption of the work due to ROW issues, which is beyond the control of the petitioner.

28. As the project cost of ₹10583.53 lakh claimed by the petitioner exceeded the approved cost of ₹8837.33 lakh, the petitioner was directed to submit approval for RCE. In response, the petitioner vide its affidavit dated 3.11.2016 has submitted the Revised Cost Estimate (RCE) of the said

transmission line. Revised Cost Estimate (RCE) of the said transmission line was approved by Board of Directors of the petitioner during 439th meeting held on 28.10.2016 at an estimated cost of ₹11142.00 lakh, which included consultancy charges of ₹1001.00 lakh and IDC of ₹2261.00 lakh (based on first quarter 2016 price level).

29. The petitioner in instant petition has submitted the details of the estimated completion cost of the said transmission line as under:-

(₹ in lakh)

Asset	**COD**	**cost as per FR**	**Revised apportioned cost as per RCE**	**Estimated completion cost an on 31.3.2019**
400 kV D/C Dadri-Loni Road Transmission Line	8.9.2014	4735.20	11142.00	11097.77

30. The completion cost of the instant assets is within the apportioned costs as per revised RCE and hence there is no cost over-run with respect to revised apportioned approved cost.

<u>Time Over-run as on COD of transmission line and the reasons for delay</u>

31. The petitioner was directed to provide the clarification regarding COD for the 400 kV D/C Dadri-Loni road transmission line. In response, the petitioner vide its affidavit dated 19.8.2016 has submitted that in accordance with DTL letters dated 23.4.2013 and as agreed in the Agreement dated 12.6.2009 signed between NTPC and PGCIL for 44.00 km line length, the scheduled date of completion of works was 24 months from the date of signing of Agreement. The petitioner has further submitted that due to non availability of corridor between Ghaziabad and Muradnagar at NH-58, Powergrid vide its letter dated 27.8.2010 has revised the line length to 54.18 km and thereafter, due to revision in line length, NTPC signed Supplementary Agreements dated 21.3.2011 with PGCIL for executing the work at an estimated cost of ₹5830.80 lakh. The petitioner has submitted that considering the time schedule of 24 months from signing of Supplementary Agreements for completing the works related to transmission line of 54.18 km, the scheduled completion date was 21.3.2013 and has submitted the copy of relevant documents in this regard.

32. We have considered the petitioner's submission and considered scheduled COD as 21.3.2013.

33. As submitted in Form 2, the petitioner has claimed tariff for 53.284 km of line length. The ckt-1 and ckt-2 of the 400 kV D/C Dadri-Loni road transmission line were put under commercial operation with effect as under:-

Assets name	**SCOD**	**Actual date of commercial operation**	**Delay in months**
400 kV D/C Dadri-Loni Road transmission line, ckt-1	21.3.2013	02.08.2014	16 months and 12 days
400 kV D/C Dadri-Loni Road transmission line, ckt-2		08.09.2014	17 months and 18 days

34. The petitioner has submitted that the delay in execution of 400 kV D/C Dadri-Loni road transmission line is mainly due to severe ROW issues and this 54.18 km transmission line passes through 03 districts of UP namely Gautam Budh Nagar, Hapur & Ghaziabad. The petitioner has further submitted that since the market value of the land in this area is quite high, the land owners were vehemently opposing the erection works of the transmission line resulting in continuous disruption of this work and therefore, the matter of Right of Way (ROW) issue was taken up by NTPC at various levels of district administration. In this regard, the petitioner has submitted the copy of letter dated 9.4.2012 to the District Magistrate, Ghaziabad (U.P.) regarding assistance for undertaking foundation works in the affected locations due to disturbance by land owners. The petitioner has also submitted copy of the letters that were submitted to the District Magistrates of Panchsheel Nagar, Meerut division, Gautambudh Nagar district of U.P for assistance due to disturbances by landowners. It has also submitted the copy of letters dated 23.4.2013 that were submitted by Delhi Transco Ltd. to District Magistrates of Ghaziabad, Hapur and Gautambudh Nagar districts of U.P requesting for resolving ROW issues. The petitioner has also submitted the copy of letter dated 18.6.2013 that was submitted to the Chief Secretary, Govt. of Uttar Pradesh, Lucknow for assistance in resolving the ROW issues. Further, the petitioner has submitted the copy of letter dated 10.6.2014 that was submitted by Ministry of Power to District Magistrate of Meerut, UP requesting for resolving problems of RoW and forest clearance so that line could be completed.

35. Thus from the above submissions of petitioner, we have the correspondence details regarding RoW issues in various districts of U.P from 9.4.2012 to 10.6.2014. This indicates that due to such RoW issues, it could be possible that the ckt-1 and ckt-2 of the 400 kV D/C Dadri-Loni road transmission line are commissioned on 2.8.2014 and 8.9.2014, respectively. Accordingly, the entire time over-run ckt-1 and ckt-2 of 400 kV D/C Dadri-Loni road transmission line is provisionally condoned and accordingly IDC and IEDC for the delay are allowed to be capitalised. However, the petitioner is directed to provide the detailed justification for time over-run in chronological order at the time of truing up.

Assets name	SCOD	Actual Date of commercial operation	Delay in months	Delay condoned by the Commission	Delay not condoned by the Commission
400 kV D/C Dadri-Loni Road transmission line, ckt-1	21.3.2013	02.08.2014	16 months and 12 days	16 months and 12 days	0 months
400 kV D/C Dadri-Loni Road transmission line, ckt-2		08.09.2014	17 months and 18 days	17 months and 18 days	0 months

IDC and IEDC

36. As discussed above, the petitioner vide its affidavit dated 14.9.2016 has submitted Auditor's Certificate as on COD for the asset. However, the petitioner is directed to submit the Auditor's Certificate as on COD along with the details of IDC and IEDC on cash basis at the time of truing up. As discussed above, we have condoned the entire time over-run in case of the instant transmission line.

37. As the capital cost claimed by the petitioner for the instant transmission asset of ₹10583.53 lakh as on 8.9.2014 (COD of ckt-2) is within the revised RCE of ₹11142.00 lakh, we have considered the capital cost of the transmission asset as under:-

(₹ in lakh)

	Capital cost upto COD 2.8.2014 (COD of ckt 1)	Additional capital expenditure 2014-15 (From 02.08.2014 to 07.09.2014)	Capital cost upto COD 8.9.2014 (COD of ckt 2)
Asset	5126.66	0.00	10583.53

38. Accordingly, capital cost as worked out above as on COD is allowed and considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be trued up at the time of truing up of tariff for 2014-19 period.

Actual/ Projected Additional Capital Expenditure during period 2014-19

39. Regulation 14 (3) of the 2014 Tariff Regulations, provides as under:

> *"14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*
>
> *(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;*
>
> *(ii) Change in law or compliance of any existing law;*
>
> *(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;*
>
> *(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;*
>
> *(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;*
>
> *(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*
>
> *(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be.The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*
>
> *(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*

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

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

Actual/ Projected Additional Capital Expenditure for National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19

40. Respondent No. 2, TPDDL, has submitted that in accordance with Regulation 14(1)(ii) of the 2014 Tariff Regulations, capital expenditure incurred within the cut-off date only shall be allowed. The respondent has further submitted that the petitioner in Form 9A has claimed the additional capitalization for 2014-15 and 2015-16 under Regulation 14(1)(ii) of the 2014 Tariff Regulations, but the same are clearly after the cut-off date and therefore, the same should not be allowed. Further, it has submitted that the petitioner has categorically failed to provide any documentary evidence to give credence for justifications provided for the delay.

41. The Respondent No. 3, BRPL has submitted that the petitioner has projected total additional capital expenditure of ₹2213.01 lakh during 2014-15 and ₹1377.99 lakh (that is = ₹1413.99 lakh - ₹36.00 lakh) during 2015-16 on various counts on "Works deferred for Execution" under Regulations 14(1)(ii) read with Regulation 54, 14(3)(v) of the 2014 Tariff Regulations. On this issue, the

respondent has submitted that the petitioner could not complete the deferred works within the normal cut-off date of 31.03.2013 and thus the Commission had extended the cut-off date to 31.03.2014. The respondent has further submitted that in spite of the extension granted by the Commission, the petitioner could not complete the alleged deferred works and thus the petitioner cannot request for invoking the "Power to Relax" time and again under Regulation 54 of the 2014 Tariff Regulations for its own inefficiencies. The respondent has further submitted that request of the petitioner for invoking the provision of Regulations 54 which deals with the "Power to Relax" for allowing the alleged deferred works by extension of cut-off date is unjustified and the exercise of "Powers to Relax" by the Commission under Regulation 54 ultimately results in additional benefit to petitioner. The respondent has further submitted that "Power to Relax" under Regulation 54 of the 2014 Tariff Regulations can be invoked for technical and procedural considerations and not for commercial and financial considerations and therefore, the unreasonable demand of the petitioner for additional capital expenditure may not be allowed by the Commission. The respondent has submitted that as mentioned in the petition these works form part of the original scope of works and awarded before the cut-off date and as these works have not been completed upto cut off date, therefore Regulation 14(3)(v) of the 2014 Tariff Regulations is not applicable in this case. The respondent has further submitted that an additional capital expenditure cannot be claimed in the variety of clauses of the 2014 Tariff Regulations and thus liable to be rejected by the Commission.

42. In response, the petitioner has submitted that detailed justification for undertaking the various schemes of works which are within the original scope of works and are capitalizing during the period 2014-15 & 2015-16 have already been provided in the instant petition. Due to unforeseen circumstances and reasons beyond the control of the petitioner, the capitalization of these works which are within the original scope of works were capitalized beyond the cut-off date of the station which falls on 31.03.2014. The petitioner has further submitted that these works are deferred works which was awarded prior to cut off date of the Station and therefore, these minor expenditure incurred by the petitioner may be allowed under Regulation 14 with Regulation 54 i.e. Power to Relax.

43. The petitioner has claimed the projected additional capital expenditure (excluding discharge of liabilities) for National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19 with detailed break up as under:-

(₹ in lakh)

Sl. No.	Package Description	Claimed						Regulation
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	
	Development Works							
1	Infrastructure and Site Development works	51.09	339.55	0.00	0.00	0.00	390.64	14 (1) (ii) with Regulation 54, 14 (3) (v)
	S. Total	**51.09**	**339.55**	**0.00**	**0.00**	**0.00**	390.64	
	Plant and Equipment							
2	Main Plant Package SG+TG (Unit V)	0.00	31.05	0.00	0.00	0.00	31.05	14 (1) (ii) with Regulation 54, 14 (3) (v)
3	Main Plant Package SG+TG (Unit VI)	0.00	50.55	0.00	0.00	0.00	50.55	14 (1) (ii) with Regulation 54, 14 (3) (v)
	S.Total	**0.00**	**81.60**	**0.00**	**0.00**	**0.00**	**81.60**	
	BOP Mechanical							
4	Main Plant Civil Works	89.88	60.00	0.00	0.00	0.00	149.88	14 (1), 14 (1) (ii) with Regulation 54, 14 (3) (v)
5	Fire Fighting System (Fire Wall and Protection System)	0.00	36.00	0.00	0.00	0.00	36.00	14 (3) (ii), 14 (3) (iii)
6	Coal Handling System	0.00	172.00	0.00	0.00	0.00	172.00	14 (1), 14 (1) (ii) with Regulation 54, 14 (3) (v)
7	Ash Handling System including Ash Brick Plant	0.91	150.00	0.00	0.00	0.00	150.91	14 (1), 14 (1) (ii) with Regulation 54, 14 (3) (v)
8	Pretreatment Plant Package	0.00	28.00	0.00	0.00	0.00	28.00	14 (1), 14 (1) (ii) with Regulation 54, 14 (3) (v)
9	Railway siding and ST system	47.36	0.00	0.00	0.00	0.00	47.36	14 (1) (ii) with Regulation 54, 14 (3) (v)
10	Lining of MAT branch canal	1392.86	0.00	0.00	0.00	0.00	1392.86	14 (1), 14 (1) (ii) with Regulation 54 and 14 (3) (v)
	Equipments/Tools	0.00	0.00	0.00	0.00	0.00	0.00	
	S.Total	**1531.01**	**446.00**	**0.00**	**0.00**	**0.00**	**1977.01**	
11	**Reservoir and Associated System**							
12	Reservoir & Make up water system	0.00	0.00	0.00	0.00	6087.82	6087.82	14 (3) (i)

Sl. No.	Package Description	Claimed						Regulation
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	
	Development Works							
13	CW & Make up water system	0.00	0.00	0.00	0.00	5.10	5.10	14 (3) (i)
14	Ventilation System	0.00	0.00	0.00	0.00	3.00	3.00	14 (3) (i)
15	Station C&I Package	0.00	0.00	0.00	0.00	9.00	9.00	14 (3) (i)
	S.Total	0.00	0.00	0.00	0.00	6104.92	6104.92	
	Civil Works							
16	Township & Colony	595.13	539.55	0.00	0.00	0.00	1134.68	14 (1) (ii) with Regulation 54, 14 (3) (v)
	S.Total	**595.13**	**539.55**	**0.00**	**0.00**	**0.00**	**1134.68**	
	BOP Electricals							
17	Electrical Equipments Supply & Erection (125 MVAR Bus Shunt Reactor)	0.00	0.00	0.00	600.00	0.00	600.00	14 (3) (ii), 14 (3) (ix) with Regulation 54
18	Switchyard Package (Bus Sectionalization in 400 kV Switchyard)	0.00	0.00	0.00	690.00	0.00	690.00	14 (3) (ii), 14 (3) (ix) with Regulation 54
19	Lighting Mast	35.78	7.29	0.00	0.00	0.00	43.07	14 (1), 14 (1) (ii) with Regulation 54, 14 (3) (v)
	S.Total	**35.78**	**7.29**	**0.00**	**1290.00**	**0.00**	**1333.07**	
20	**Total Additional Capital Expenditure**	**2213.01**	**1413.99**	**0.00**	**1290.00**	**6104.92**	**11021.92**	
21	**S.Total of Decapitalization**	(-)229.64	0.00	0.00	0.00	0.00	(-)229.64	
22	**Grand Total of Claimed Items**	**1983.38**	**1413.99**	**0.00**	**1290.00**	**6104.92**	**10792.29**	

44. It is observed that the Commission vide order dated 4.12.2014 in Petition No. 17/GT/2013 had extended the cut-off date of the generating station for the purpose of capitalization of the expenditure for the generating stations by one year i.e. from 31.3.2013 to 31.3.2014 in exercise of Power to Relax under Regulation 44 of the 2009 Tariff Regulations. The projected additional capital expenditure claimed by the petitioner is discussed in the succeeding paragraphs.

Infrastructure and Site Development works

45. The petitioner has claimed total actual additional capital expenditure of ₹51.09 lakh in 2014-15 and ₹339.55 lakh in 2015-16 on cash basis for Infrastructure and site development works under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification the petitioner has submitted that these works form part of the original scope of works and were awarded before cut off date of the Station. The petitioner has further submitted that factors like continuous interruption by the local villagers, non availability of labourers, usage of inferior quality materials etc. have delayed the capitalization of these works.

46. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Main Plant and Equipment

47. The petitioner has claimed total additional capital expenditure of ₹31.05 lakh under main plant package of Unit-I and ₹50.55 lakh under main plant package of Unit-II during 2015-16 under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that these works form part of the original scope of works and were awarded before cut-off date of the Station. However, erection and commissioning of software package under main plant package were delayed as the software supplied was found defective/ deficient during Factory Acceptance Testing (FAT) by BHEL-EDN before installation and the same have been replaced. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for, the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Main plant civil works, coal handling system, ash handling system and pre-treatment plant package

48. The petitioner has claimed total additional capital expenditure of ₹90.79 lakh in 2014-15 and 410.00 lakh in 2015-16 towards main plant civil works, coal handling system, ash handling system and pre-treatment plant package under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that these works form part of the original scope of works and were awarded to various agencies before cut off date of the Station. However, some minor works of independent nature but forming part of these bigger packages could not be completed, delay in supply of few materials required for completion of erection works, identification and rectification of works found defective and also pending rectification of few materials found defective. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for, the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Fire Water and Protection system

49. The petitioner has claimed total additional capital expenditure of ₹36.00 lakh in 2015-16 towards FWPS (Fire Water and Protection system) under Regulation 14(3)(ii) (Compliance of any existing law) and 14(3)(iii) (Higher Security and safety of the plant) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that assessment of availability, reliability and design adequacy of fire detection and protection system of all coal based thermal stations of NTPC was carried out in accordance with the Regulation 12(5) of Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulations, 2010, published in the Gazette of India No 211 datd 20.8.2010. Based on these guidelines, the petitioner has identified following jobs for compliance with the said regulation with respect to fire detection and protection system at the generating station:

(i) Installation of Medium Velocity Water (MVW) spray system for the various cable galleries of CHP area and

(ii) Installation of MVW spray system for stacker reclaimer of CHP.

50. The petitioner has submitted that the augmentation of fire protection system of coal handling plant (CHP) and stacker reclaimer area is essentially required to prevent any catastrophic damage in case fire breaks out in CHP as existence of coal in CHP area makes it vulnerable to fire hazard and mobile fire protection equipments may not be able to control the spread of fire. The petitioner has therefore prayed that the Commission may allow the capitalisation on account of augmentation of fire protection system under Regulations 14(3)(ii) and14(3)(iii) of the 2014 Tariff Regulations.

51. With regard to the additional capital expenditure claimed for fire detection and protection system, the Respondent No. 4, BYPL has submitted that such claim is not in accordance with the Regulation 14(3)(iii) of the 2014 Tariff Regulations, as Central Electricity Authority is not responsible for "national security/internal security". The respondent has further submitted that such expenditure shall be made only under one Regulation, not under multiple regulations.

52. The Respondent No. 3, BRPL has further submitted that the petitioner has projected an additional capital expenditure amounting to ₹36.00 lakh during 2015-16 under Regulations 14(3)(ii) & (iii) of the 2014 Tariff Regulations for 'Fire Water and Protection System'. The respondent has further submitted that the said expenditure is claimed in line with Regulation 12(5) of the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric lines) Regulations, 2010, which provides for technical standards for construction of electrical plants. The respondent has further submitted that National Capital TPS Stage-II is already a constructed plant and thus the regulations which came in effect subsequently as quoted by the petitioner are not applicable and thus the claim is liable to be rejected by the Commission.

53. In response, the petitioner has submitted that after fire incidence in some of the generating stations of NTPC, it was decided to carry out fire safety audit of all the generating stations of NTPC and a committee was formed in this regard. The petitioner has further submitted that during fire safety audit, this committee has followed Central Electricity Authority (Technical Standards for Construction of Electric Plants and Electric lines) Regulations 2010 as guiding document, the only available statutory document specific to power plants and accordingly, considering the safety of the

plant and equipments and O&M personnel, it has been decided to align fire fighting system of NTPC plants.

54. The petitioner has further submitted that detailed justification for undertaking the schemes like FWPS (Fire Water and Protection System) have already been provided in the instant petition alongwith the relevant supporting documents and since the expenditure incurred on FWPS (Fire Water and Protection system) falls under various provisions of Regulation 14(3) of 2014 CERC Tariff Regulations, the same has accordingly been claimed.

55. As regards the claim for projected additional capital expenditure towards augmentation of fire fighting system in CHP based on the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric lines) Regulations, 2010, it is not clear from the submissions of the petitioner as to what steps have been taken by the petitioner for compliance with the regulations of CEA since 2010 in respect of this generating station towards augmentation of fire fighting system etc. In the absence of any justification for the need for capitalisation of these works/assets at this stage, the claim of the petitioner for projected additional capital expenditure is not justifiable. Accordingly, we are not inclined to consider the claim of the petitioner for ₹36.00 lakh in the year 2015-16 towards augmentation of a fire fighting system. Hence, the said claim is disallowed.

Railway siding and ST system

56. The petitioner has claimed total additional capital expenditure of ₹47.36 lakh in 2014-15 towards railway siding and ST system under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that the materials which are used in railway siding and signalling works required inspection from RDSO (Research, Design and Standards Organization), which is a body under Ministry of Railways and carries out inspection of each and every material ranging from nuts and bolts to the rails and sleepers, which are required to be used for any railway system and the same is carried out to ensure safety of the system. The petitioner has further submitted that these works are within the original scope of work awarded before the cut-

off date of the Station and all the materials have been procured and inspected except for BOIs like data logger, excel counter etc. which is required for commissioning of S&T system. The petitioner has further submitted that in order to carry out the signal interlocking works for S&T system, it is necessary to stop the traffic in a particular stretch, however, Railway did not give permit on few occasions due to heavy rush of coal wagons on this railway track that resulted in delay in commissioning of S&T system. The petitioner has therefore prayed that the Commission may allow the capitalisation on account of railway siding and S&T systam under Regulations 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

57. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Lining of MAT Branch Canal

58. The petitioner has claimed total additional capital expenditure of ₹1392.86 lakh in 2014-15 towards lining of MAT branch canal under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that this work is within the original scope of work and was awarded before the cut off date of the Station. The petitioner has further submitted that the said work was carried out through UP Irrigation Department (UPID) at total estimated cost of ₹23400 lakh as the work related to canal lining is in the purview of UPID only and no other agency is authorised to do such job. This includes works like canal lining, constructing cross regulator, bridges, maintenance etc. The petitioner has further submitted that as per estimated demand, NTPC released amount in advance amounting to about around ₹23400 lakh against which UPID has utilized an amount of around ₹22000 lakh till 31.03.2014 and the balance amount of ₹1400 lakh is capitalized in 2014-15. In view of above, the petitioner has prayed that the Commission may allow the capitalisation on account of lining of MAT branch canal under Regulations 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

59. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

125 MVAR Bus Shunt Reactor

60. The petitioner has claimed total additional capital expenditure of ₹600.00 lakh in 2017-18 towards installation of 125 MVAR bus shunt reactor under Regulations 14(3)(ii), 14(3)(ix) and 54 of the 2014 Tariff Regulations. In justification, the petitioner has submitted that the proposed installation of 125 MVAR bus reactor is a grid requirement and was approved in 95th OCC meeting (held on 20.01.2014/ 21.04.2014) and 30th NRPC meeting held on 28.02.2014 by NR constituents. The petitioner has further submitted that in minutes of 30th NRPC meeting held at 28.2.2014, it is observed that the same has been planned in replacement of 64 MVA bus reactor at Dadri which has been burnt. In this regard, the petitioner was directed to provide the details of de-capitalization that occurred on account of this burnt bus reactor. However, the petitioner has not provided any details of such de-capitalization.

61. With regard to the additional capital expenditure claimed for 125 MVAR bus shunt reactor, the Respondent No. 4, BYPL has submitted that such claim is not in accordance with the Regulation 14(3)(ii) (change in law or compliance of any existing law) of the 2014 Tariff Regulations as recommendation of POWERGRID for such replacement are not “statutory pronouncement” and this claim has also been made under Regulation 14(3)(ix) of the 2014 Tariff Regulations. Therefore, the respondent has requested the petitioner to confirm that whether the equipment was covered under performance guarantee /insurance and what steps were taken to mitigate financial loss caused on account of failure of equipment.

62. The Respondent No. 3, BRPL, has submitted that the petitioner has projected a total additional capital expenditure amounting ₹600 lakh during 2017-18 under Regulations 14(3)(ii) &

14(3)(iii) & (ix) read with Regulation 54 of the 2014 Tariff Regulations for “125 MVAR bus shunt reactor”. The respondent has further submitted that the said Bus Reactor had failed in January 2013 and BHEL has declared the reactor beyond repair but now this fact is being concealed in the amended petition. In this regard, the respondent has requested the petitioner to provide the reasoning of failure or details about its warranty or the insurance of this asset in the petition. The respondent has further submitted that expenditure of this nature are also not permissible under Regulations 14(3)(ii) & 14(3)(iii) & (ix) of the 2014 Tariff Regulations and the same cannot be allowed just by invoking the Regulation 54 of 2014 Tariff Regulations. It has also submitted that the proposed installation of 125 MVAR bus reactor was approved in the NRPC meetings wherein all the discoms who are expected to pay for the tariff of this asset are not even members of NRPC. As the expenditure of this nature are not permissible under Regulations 14(3)(ii) & 14 (3)(iii) &(ix) of the Tariff Regulations, 2014, the respondent BRPL has requested the Commission to reject the said the said expenditure.

63. In response of the submissions of the above respondents, the petitioner has submitted that the detailed justification for undertaking the schemes 125 MVAR bus shunt reactor have already been provided in the instant petition along with the relevant supporting documents. The petitioner has further submitted that the said expenditure on 125 MVAR bus shunt reactor was approved in 95th OCC meeting and 30th NRPC meeting by NR constituents which also includes BYPL. Accordingly, the petitioner submitted that it has claimed the said expenditure as the same falls under various provisions of Regulation 14(3) of the 2014 Tariff Regulations.

64. We have examined the matter. As the petitioner has not provided any details of such de-capitalization that occurred on account of this burnt bus reactor, we are not inclined to consider the claim of the petitioner for ₹600.00 lakh in the year 2017-18 towards installation of 125 MVAR bus shunt reactor. Hence, the said claim is disallowed.

Bus Sectionalization in 400 kV Switchyard

65. The petitioner has claimed total additional capital expenditure of ₹690.00 lakh in 2017-18 towards bus sectionalization in 400 kV switchyard under Regulations 14(3)(ii), 14(3)(ix) and 54 of the 2014 Tariff Regulations.

66. The Respondent No. 3, BRPL has submitted that the petitioner has projected a total additional capital expenditure amounting to ₹690 lakh during 2017-18 under Regulations 14(3)(ii) & (iii) read with Regulation 54 of the 2014 Tariff Regulations for "Bus sectionalization in 400 kV Switchyard". It has further submitted that, as submitted in the petition, the need for bus sectionalization was felt in the year 2008 and the same is being pressed in 2017-18 indicating the fact that the need is not important for petitioner. As the expenditure of this nature are also not permissible under Regulations 14(3)(ii) & (iii) of the 2014 Tariff Regulations, therefore, the respondent has submitted that the said expenditure cannot be allowed just by invoking the Regulation 54 of 2014 Tariff Regulations. The respondent has further submitted that it is unclear that why this expenditure is not claimed in the tariff of Dadri GPS or the NCTPS, Stage-I. It has further submitted that the proposed installation of bus sectionalization in 400 kV Switchyard was approved in the NRPC meetings wherein all the Discoms who are expected to pay for the tariff of this asset are not even members of NRPC. Therefore, as the expenditure of this nature are not permissible under Regulations 14(3)(ii) & (iii) of the 2014 Tariff Regulations, the respondent has requested the Commission to reject the said expenditure.

67. In response, the petitioner has submitted that during development of associated transmission system (ATS) for NCTPS-II, Dadri, the fault level studies were carried out by PGCIL and bus splitting at Dadri 400 kV switchyard were considered in order to contain the fault level within the design limit of existing system. The petitioner has further submitted that ATS for NCTPS-II, Dadri were finalized in 26th NR Standing Committee Meeting (SCM) held in October 2008 with Dadri 400 kV bus splitting along with Dadri-Loni road 400 kV D/C transmission line and in accordance with this NR SCM for power evacuation reliability/ redundancy of each of the splitted bus section, the splitting of 400 kV Dadri buses were considered to be undertaken after availability of Dadri-Loni road 400 kV

D/C transmission line. The petitioner has further submitted that in the 30th SCM held on 19.12.2011, in order to provide additional operation flexibility in case power evacuation constraints are faced in either side of splitted section, suitable bus sectionalizer arrangement between the two splitted bus/ systems were considered for various substations around Delhi including NCTPS-II, Dadri switchyard. In view of above, the petitioner has prayed that the Commission may allow the capitalisation on account of bus sectionalization in 400 kV switchyard under Regulations 14(3)(ii), 14(3)(ix) and 54 of the 2014 Tariff Regulations as the same is being implemented due to grid requirements as per NR SCM.

68. We have examined the matter. It is observed that this expense of ₹690.00 lakh in 2017-18 towards bus sectionalization in 400 kV switchyard is not part of original scope of works and is projected due to subsequent grid requirements. Further, it is noticed that the petitioner has proposed to carry out bus splitting in order to contain the fault level within the design limit of existing system, for safe and reliable operation of the GRID, as per CEA recommendation in the Standing Committee on Power System. Accordingly, the scheme of bus splitting of generating station was given a go ahead in the NRPC meeting. Further, the Commission in the similar case in order dated 21.1.2017 while approving tariff of Kahalgaon Super Thermal Power Station Stage-II (1500 MW) for the period 2014-19 in Petition No. 283/GT/2014 had considered the capitalization towards 400 kV bus sectionaliser as under:-

> *"48. The claim of the petitioner has been examined in the above background. It is observed that the petitioner has proposed to carry out bus splitting in order to reduce the fault levels for four substations including the generating station, for safe and reliable operation of the GRID, as per CEA recommendation in the Standing Committee on Power System. Accordingly, the scheme of bus splitting of generating station was given a go ahead in the ERPC/NRPC meeting, wherein, the constituents also agreed to share the expenditure incurred by the petitioner through tariff. Considering the fact that the scheme is implemented in the 400 kV Switchyard of Kahalgaon STPS and form part of the transmission system and since the expenditure is necessary for successful and efficient operation of transmission system in order to reduce the fault levels for Kahalgaon and for safe and reliable operation of the Grid, we in exercise of the power to relax under Regulation 54 of the 2014 Tariff Regulations, relax the Regulation 14(3)(ix) of the 2014 Tariff Regulations and allow the projected additional capital expenditure of ₹9894.00 lakh claimed in 2016-17. However, as the bus splitting is related to both Stages (i.e Stage-I and Stage-II) of Kahalgaon STPS, the total expenditure is apportioned pro rata based on the capacity of Stage-I (840 MW) and Stage-II (1500 MW) of Kalagaon STPS. Accordingly, out of the total the projected*

additional capital expenditure of ₹9894.00 lakh, Stage-I of Kahalgaon STPS is apportioned ₹3551.69 lakh and Stage-II of Kahalgaon (this generating station) is apportioned ₹6342.31 lakh in 2016-17. The relaxation and the consequent capitalization allowed as above, is based on the specific facts of the case and cannot be cited as a precedent in future."

69. Considering the above similar case and the fact that the scheme form part of the transmission system and since the expenditure is necessary for successful and efficient operation of transmission system in order to reduce the fault levels for safe and reliable operation of the Grid, we in exercise of the power to relax under Regulation 54 of the 2014 Tariff Regulations, relax the Regulation 14(3)(ix) of the 2014 Tariff Regulations and allow the projected additional capital expenditure of ₹690.00 lakh towards bus sectionalization in 400 kV switchyard claimed in 2017-18. The relaxation and the consequent capitalization allowed as above, is based on the specific facts of the case and cannot be cited as a precedent in future.

Township and Colony

70. The petitioner has claimed total additional capital expenditure of ₹595.13 lakh in 2014-15 and 539.55 lakh in 2015-16 towards township and colony under Regulations 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that these works form part of the original scope of works and were awarded before cut-off date of the Station. The petitioner has further submitted that these works have been delayed due to installation of specialized nature of works like sound reinforcement system, multimedia presentation system etc and also the agency faced several problems during execution of these works due to specialized nature of works. In view of above, the petitioner has prayed that the Commission may allow the capitalisation on account of township and colony.

71. The Respondent No. 3, BRPL has submitted that petitioner has not provided the details of the energy consumed for supply of power to housing colony and other facilities at the generating station and therefore, the petitioner may be directed to file all such information including the power generation allocated at the generating station for use by housing colony and other facilities to the Commission and the respondents. In response, the petitioner submitted that in accordance with

Regulation 7(4) of the 2014 Tariff Regulations, tariff filing forms do not require colony consumption for determination of tariff of the generating station.

72. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Lighting Mast

73. The petitioner has claimed total additional capital expenditure of ₹35.78 lakh in 2014-15 and 7.29 lakh in 2015-16 towards lighting mast under Regulations 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that these works form part of the original scope of works and were awarded before cut off date of the Station, however, some minor works of independent nature but forming part of these bigger packages could not be completed on account of delay in supply of few materials required for completion of erection works, identification and rectification of works found defective and also pending rectification of few materials found defective. In view of above, the petitioner has prayed that the Commission may condone the delay and allow the capitalisation on account of lighting mast.

74. We have examined the matter. In view of the submissions of the petitioner and since the additional capital expenditure incurred is towards balance payments/deferred liabilities under original scope of work, the additional capital expenditure for the same is allowed under Regulation 14(1)(ii), 54 and 14(3)(v) of the 2014 Tariff Regulations.

Reservoir and associated system

75. The petitioner has claimed total additional capital expenditure of ₹6104.92 lakh in 2018-19 towards reservoir and associated system under Regulations 14(3)(i) of the 2014 Tariff Regulations. In justification, the petitioner has submitted that these works which form part of the original scope of works were awarded before cut off date of the Station. The petitioner has further submitted that as

indicated in the mid-term true up petition no 17/GT/2013 filed with the Commission, the contractor, M/s Gangotri Enterprise Ltd (GEL), has gone for arbitration leading to delay in execution of work. The work is expected to be capitalized by 2018-19. The petitioner has further submitted that even though the case is still under arbitration, all possible efforts were made by NTPC to restart the work and due to this, the contractor has restarted the work. In view of above, the petitioner has prayed that the Commission may allow the capitalisation on account of reservoir and associated system under Regulation 14(3)(i) of the 2014 Tariff Regulations.

76. The Respondent No. 3, BRPL has submitted that the petitioner has also projected a total additional capitalization of ₹6104.92 lakh during 2018-19 on works related to 'Reservoir & Make up water system' and other incidental works under Regulation 14(3)(i) of the 2014 Tariff Regulations. The respondent has further submitted that, as mentioned in the petition, M/s Gangotri Enterprise Ltd. has gone for arbitration leading to delay in works and nothing has been mentioned about the arbitration and the parties involved and therefore, the petitioner is expected to file the details of the arbitration and the parties involved. The respondent has further submitted that the said expenditure can only be considered on conclusion of the arbitration proceedings and not now and therefore, the Commission should not allow the said claim.

77. In response, the petitioner has submitted that the contractor, M/s Gangotri Enterprise Ltd (GEL), has gone for arbitration leading to delay in execution of work. The petitioner has further submitted that even though the case is still under arbitration, all possible efforts were made by petitioner to restart the work and the petitioner has provided the details regarding correspondences related to Arbitration on Reservoir works in the instant amended petition.

78. We are of the view that the petitioner may claim such additional capitalization only after finalization of arbitration proceedings. Accordingly, we are not inclined to consider the claim of the petitioner for ₹6104.92 lakh in the year 2018-19 towards reservoir and associated system. Hence, the said claim is disallowed.

De-capitalization:

79. The petitioner has adjusted the de-capitalization of ₹229.64 lakh during 2014-15 towards de-capitalization of spares and MBOA as under:-

(₹ in lakh)

S. No.	Description	Year of Capitalization	Capitalization/ De-cap amount	Depreciation recovered in Tariff
	De-capitalization of Spares (Part of capital cost)			
1	De-capitalization of Spares	COD of Unit-1 (31.1.2010)	133.75	30.36
2	De-capitalization of Spares	COD of Station (31.7.2010)	39.47	7.50
	Sub-Total(A)		**173.22**	**37.86**
	De-capitalization of MBOAs (Part of capital ost)			
3	Furniture and fixtures	COD of Unit-1 (31.1.2010)	0.30	0.34
4	Furniture and fixtures	2011-2012	0.50	0.11
5	Other Office Equipments	COD of Unit-1 (31.1.2010)	1.49	10.49
6	Other Office Equipments	COD of Station (31.7.2010)	0.56	0.08
7	EDP, WP machines & SATCOM equipments	COD of Unit-1 (31.1.2010)	46.21	11.28
8	EDP, WP machines & SATCOM equipments	COD of Station (31.7.2010)	0.44	-
9	EDP, WP machines & SATCOM equipments	2011-2012	0.50	11.87
10	EDP, WP machines & SATCOM equipments	2012-2013	6.41	-
	Sub-Total(B)		**56.42**	**34.18**
	Total (A+B)		**229.64**	**72.04**

80. The Respondent No. 3, BRPL has submitted that the petitioner in the amended petition has shown large amount of items/assets/works as exclusion items under Form-9D and there is no provision for exclusion of any assets under the 2009 Tariff Regulations and hence the claim of the Petitioner in respect of spares and MBOA items should not be allowed. The respondent has further submitted that de-capitalization of the exclusion items is necessary and the same is required to be adjusted by reduction in the capital cost. The respondent has further submitted that capital spares, miscellaneous expenditures and MBOA items have not been shown as part of tariff to avoid their de-capitalization year after year and therefore, it is requested that the Commission may disallow such

claim of petitioner. The respondent has opined that either the expenditure incurred on assets like capital spares, miscellaneous expenditures and MBOA items are in the nature of capital expenses or it is in the nature of revenue expenses and therefore, the Commission should issue necessary directions in this regard. The respondent has further submitted that the Hon'ble Tribunal in its judgment dated 1.7.2014 in Appeal No. 169 of 2013 (GRIDCO Limited vs M/s Bhushan Power & Steel Ltd. & others) have clearly stated that the appropriate Commission or the Appellate Tribunal have no power to add, substitute or delete any provisions of the regulation.

81. In response, the petitioner has submitted that since the capitalization of MBOAs items are not being allowed by the Commission, its de-capitalization may also be kept under exclusion. In respect of de-capitalization of MBOA items, the petitioner has further submitted that since capitalization of these MBOAs items are not allowed under the 2014 Tariff Regulations, de-capitalization of these MBOAs items may not be taken out of the capital cost and should be allowed under exclusion. The petitioner has further submitted that capital spares which have become unserviceable and allowed in tariff are accordingly de-capitalized during 2014-15 and deducted from the capital cost of NCTPS, Stage-II, Dadri and the same is not shown under Form-9D (Exclusion). Therefore, the petitioner has submitted that contentions of the respondent that petitioner is keeping de-capitalization of Capital Spares in exclusion in NCTPS Stage-II, Dadri is completely baseless.

82. We do not agree with the submission of the petitioner that since capitalization of MBOA assets are not allowed after cut-off date, the decapitalization may also be kept under exclusions as the assets which were part of tariff should be taken out from the capital base once such assets are decapitalised, irrespective of the fact that such MBOA are not allowed in the tariff after cut-off date. Accordingly, the decapitalisation of capital spares on becoming unserviceable is in order and allowed.

83. Based on the above discussions, the actual additional capital expenditure allowed for the period 2014-19 is summarized as under:-

(₹ in lakh)

Sl. No.	Package Description	Approved					
		2014-15	2015-16	2016-17	2017-18	2018-19	Total
	Development Works						
1	Infrastructure and Site Development works	51.09	339.55	0.00	0.00	0.00	390.64
	S. Total	**51.09**	**339.55**	**0.00**	**0.00**	**0.00**	390.64
	Plant and Equipment						
2	Main Plant Package SG+TG (Unit V)	0.00	31.05	0.00	0.00	0.00	31.05
3	Main Plant Package SG+TG (Unit VI)	0.00	50.55	0.00	0.00	0.00	50.55
	S.Total	**0.00**	**81.60**	**0.00**	**0.00**	**0.00**	**81.60**
	BOP Mechanical						
4	Main Plant Civil Works	89.88	60.00	0.00	0.00	0.00	149.88
5	Coal Handling System	0.00	172.00	0.00	0.00	0.00	172.00
6	Ash Handling System including Ash Brick Plant	0.91	150.00	0.00	0.00	0.00	150.91
7	Pretreatment Plant Package	0.00	28.00	0.00	0.00	0.00	28.00
8	Railway siding and ST system	47.36	0.00	0.00	0.00	0.00	47.36
9	Lining of MAT branch canal	1392.86	0.00	0.00	0.00	0.00	1392.86
	S.Total	**1531.01**	**410.00**	**0.00**	**0.00**	**0.00**	**1941.01**
	Civil Works						
10	Township & Colony	595.13	539.55	0.00	0.00	0.00	1134.68
	S.Total	**595.13**	**539.55**	**0.00**	**0.00**	**0.00**	**1134.68**
	BOP Electricals						
11	Switchyard Package (Bus Sectionalization in 400 kV Switchyard)	0.00	0.00	0.00	690.00	0.00	690.00
12	Lighting Mast	35.78	7.29	0.00	0.00	0.00	43.07
	S.Total	**35.78**	**7.29**	**0.00**	**690.00**	**0.00**	**733.07**
13	**Total Additional Capital Expenditure**	**2213.01**	**1377.99**	**0.00**	**690.00**	**0.00**	**4281.00**
14	**Less: Decapitalization**	229.64	0.00	0.00	0.00	0.00	229.64
15	**Grand Total of Claimed Items**	**1983.38**	**1377.99**	**0.00**	**690.00**	**0.00**	**4051.37**

Discharge of liabilities

84. The discharge of liabilities amounting to ₹1341.30 lakh in 2014-15, pertains to capital assets/items allowed for the purpose of tariff and the same has been considered as additional capital expenditure during the respective years.

85. Accordingly, the actual additional capital expenditure allowed for the period 2014-19 is as under:-

(₹ in lakh)

Gross Block	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	492158.64	495483.32	496861.31	496861.31	497551.31
Total Additional Capitalization	2213.01	1377.99	0.00	690.00	0.00
Less: Decap of Spares: Part of Capital Cost	173.22	0.00	0.00	0.00	0.00
Less: Decap of MBOAs: Part of Capital Cost	56.42	0.00	0.00	0.00	0.00
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year /period	1341.30	0.00	0.00	0.00	0.00
Net Additional Capital Expenditure	3324.67	1377.99	0.00	690.00	0.00
Closing Gross Block	**495483.32**	**496861.31**	**496861.31**	**497551.31**	**497551.31**
Average Gross Block	**493820.98**	**496172.31**	**496861.31**	**497206.31**	**497551.31**

<u>Actual/ Projected Additional Capital Expenditure for 400 kV D/C Dadri-Loni Road Transmission Line during period 2014-19</u>

86. The petitioner has claimed additional capital expenditure for the 400 kV D/C Dadri-Loni road transmission line of ₹160.24 lakh in 2014-15 and ₹354.00 lakh in 2015-16, towards balance and retention payments under Clause 1(ii), 3(v) and 3(ix) of Regulation 14 along with Regulation 54 of the 2014 Tariff Regulations. In justification, the petitioner has submitted that such amount is in the nature of balance payment to PGCIL for onwards payments to the sub agency executing the works. The petitioner has further submitted that this also includes payment of consultancy charges and service taxes to PGCIL towards execution of the Project. The petitioner has also submitted that some additional amount is proposed to be paid towards tree compensation for payment to statutory authorities.

87. Clause 1(ii), 3(v) and 3(ix) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

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

...

(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:
…..
(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;
...
(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and"

88. Further, Regulation 54 of the 2014 Tariff Regulations provides as follows:

"54. Power to Relax. The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.;"

89. We have examined the matter. It is observed that the petitioner has not submitted the details of various schemes of works capitalized during the years 2014-15 and 2015-16. Therefore, as the petitioner has not provided detailed justification for undertaking the various schemes of works during the years 2014-15 and 2015-16 along with supporting documents, we are not inclined to consider additional capital expenditure for the period 2014-19 for the said transmission line. However, the petitioner is directed to provide the details of additional capital expenditure related to 400 kV D/C Dadri-Loni road transmission line in the main heads and sub-heads as follows, at the time of truing up:-

- Works approved/allowed in the original scope
- Works completed which were approved
- Works completed which were not approved (do not fall within scope of work)
- Works remaining to be completed

90. Further, the petitioner is directed to properly clarify the regulation under which the additional expenditure during the period 2014-19 has been claimed along with the supporting documents at the time of truing up.

91. The details of additional capital expenditure allowed is as follows:-

(₹ in lakh)

<table>
<tr><td colspan="10">Approved apportioned cost as per FR: ₹4735.20 lakh
Revised Apportioned Cost as per RCE: ₹11142.00 lakh (including consultancy charges of ₹1001.00 lakh and IDC of ₹2261.00 lakh (based on first quarter 2016 price level))</td></tr>
<tr><th rowspan="2"></th><th rowspan="2">Capital cost upto COD 2.8.2014 (COD of ckt 1)</th><th rowspan="2">Additional capital expenditure 2014-15 (From 02.08.2014 to 07.09.2014)</th><th rowspan="2">Capital cost upto COD 8.9.2014 (COD of ckt 2)</th><th colspan="5">Additional capital expenditure</th><th rowspan="2">Total estimated completion cost</th></tr>
<tr><th>2014-15 (From 08.09.2014 to 31.03.2015)</th><th>2015-16</th><th>2016-17</th><th>2017-18</th><th>2018-19</th></tr>
<tr><td>Asset</td><td>5126.66</td><td>0.00</td><td>10583.53</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>10583.53</td></tr>
</table>

Debt-Equity Ratio

92. Regulation 19 of the 2014 Tariff Regulations provides as under:

"(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-equtiy ratio.

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

(2) The generating Company or the transmission licensee shall submit the resolution f the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or proposed to be made

to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

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

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

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

National Capital Thermal Power Station Stage-II (2x490 MW)

93. Accordingly, the gross normative loan and equity amounting to ₹344511.05 lakh and ₹147647.59 lakh, respectively as on 31.3.2014 as considered in order dated 23.8.2016 in Petition No. 300/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Hence, the normative debt equity ratio of 70:30 has been considered in the case of additional capital expenditure. This is subject to truing-up in terms of the 2014 Tariff Regulations. The details of the debt:equity as on 1.4.2014 and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

	Capital cost upto COD 1.4.2014		Estimated completion cost including additional capitalization		Capital cost as on 31.3.2019	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	344511.05	70.00%	3774.86	70.00%	348285.92	70.00%
Equity	147647.59	30.00%	1617.80	30.00%	149265.39	30.00%
Total	**492158.64**	**100.00%**	**5392.66**	**100.00%**	**497551.31**	**100.00%**

400 kV D/C Dadri-Loni Road Transmission Line

94. The petitioner has considered debt:equity ratio as 70:30 in case of the transmission line. Further, the petitioner has considered debt:equity ratio as 70:30 for additional capitalization during the tariff period 2014-19. We have considered the petitioner's submission. The details of the

debt:equity as on COD and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

	Capital cost upto COD 2.8.2014 (COD of ckt 1)		Capital cost upto COD 8.9.2014 (COD of ckt 2)		Estimated additional capitalization		Capital cost as on 31.3.2019	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	3588.66	70.00%	7408.47	70.00%	0.00	0.00%	7408.47	70.00%
Equity	1538.00	30.00%	3175.06	30.00%	0.00	0.00%	3175.06	30.00%
Total	**5126.66**	**100.00%**	**10583.53**	**100.00%**	**0.00**	**0.00%**	**10583.53**	**100.00%**

Return on Equity

95. Regulation 24 of the 2014 Tariff Regulations provides as under:

> ***"24. Return on Equity****: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*
>
> *(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*
>
> *Provided that:*
>
> *i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
>
> *ii). the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
>
> *iii). additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
>
> *iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*
>
> *v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*

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

96. Regulation 25 of the 2014 Tariff Regulations provides as under:

"Tax on Return on Equity

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

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t)

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

97. The petitioner has claimed return on equity considering base rate of 16.00% and effective tax rate of 22.5884% in 2014-15 and 23.3990% in the period 2015-19.

98. The Respondent No. 4, BYPL has submitted that Regulation 25(2) of the 2014 Tariff Regulations provides a detailed methodology for computation of effective tax rate and the petitioner has neither computed effective tax rate for each year of the period 2014-19 nor furnished statement of how effective tax rate of 23.9394% has been determined. The respondent has further submitted that petitioner in its affidavit dated 9.11.2015 in Petition No. 285/GT/2014 (Auraiyya GPS, Tariff for 2014-19 period) has mentioned the effective tax rate as 22.5844% for 2014-15 and therefore, it is requested that the Commission should direct petitioner to consider effective rate of 22.5844% for the period 2014-19 for this Station also.

99. The Respondent No. 4, BYPL has further submitted that as per audited financial statement for FY 2014-15, note-22, page no. 138, “Interest from beneficiaries” of ₹33282 lakh and Note- 26 Page no. 279 “Interest to beneficiaries” of ₹9811 lakh is specified and such amount has been considered as part of operating income. The respondent has further submitted that such transactions arise on account of under/over recovery of tariff and for this under/over recovery, interest is charged/paid as applicable and therefore, “Interest from beneficiaries” of ₹33282 lakh and “Interest to beneficiaries” of ₹9811 lakh may be considered as non-generating income for the purpose of effective tax determination. The respondent has further submitted that as per note 22(d) Audited financial statement for 2014-15, the deferred tax liability of ₹11396 lakh has been recovered from tariff and in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (First Amendment) Regulations, 2015, “deferred tax liabilities” for the periods 2009-14 and 2014-19 shall not be recoverable from the beneficiaries or the long term transmission customers/DICs, as the case may be. Accordingly, the respondent has requested that the Commission should direct petitioner to state for which period deferred tax of ₹11396 lakh pertains to and in event it pertains to 2009-14 period, this amount may be reversed from generating income to determine effective tax rate.

100. The Respondent No. 3, BRPL has submitted that the petitioner in instant petition has considered effective tax rate of 22.5844% during 2014-15 and 23.3990% during 2015-2019 in Form-3 for each year of tariff period for which no details have been furnished. The respondent has further submitted that as the effective tax rate is required to be computed in accordance with Regulation 25 of the 2014 Tariff Regulations, the petitioner may be directed to furnish complete details in the working of effective tax rate of 23.9394% along with tax audit report for 2013-14 and also submit the details of deferred tax liability and its treatment in the book of accounts for the period 2014-19. The respondent has further submitted that the petitioner may also clarify whether it has received any benefits under Section 80-1A of the Income Tax Act, 1961, allowing the benefits of the tax holiday as the petitioner has not made any provisions for the tax in the 'Profit & Loss Account' of this Station.

101. In response of the above submissions of the respondents, the petitioner has submitted that it had filed the tariff petition considering effective tax rate of 23.9394% based on the estimated profit and tax to be paid for 2014-15 as per regulation 25(2) of the 2014 Tariff Regulations. Further, the petitioner vide its affidavit dated 18.04.2016 has revised ROE in the instant station based on effective tax rate on the actual profit before tax and tax paid on generation income for 2014-15 as per Regulation 25(3) of the 2014 tariff regulations as under:-

Actual Profit before Tax relating to Generation	= ₹827672 lakh
Actual Tax paid relating to Generation	= ₹186925 lakh
Effective Tax Rate	= 22.5844%.

102. The petitioner has further submitted that as per audited accounts for 2014-15, the profit before tax is ₹1054665 lakh and out of this, ₹226993 lakh relates to non–generation business. The petitioner has further submitted that the company has deposited an advance tax of ₹222000 lakh, out of which, advance tax of ₹186925 lakh pertains to generation income and the same has been included in Note 15- Long Term Loan & Advances of annual accounts of 2014-15. It has also submitted that the effective tax rate of 23.3990% has been calculated based on the estimated profit and tax to be paid for 2015-16 as per regulation 25 (2) of the 2014 Tariff Regulations and the same has been considered by the petitioner for the period 2014-19.

103. Further, with regard to the contention raised for deferred tax liability, the petitioner has submitted that the 2014 CERC Regulations provide for recovery of deferred tax liability as on 31.3.2009 from the beneficiaries. The petitioner has further submitted that an amount of ₹11396 lakh on account of deferred tax materialized for the period upto 31.3.2009 has been billed and accounted as sales during the financial year 2014-15 and deferred tax liability pertaining to the period 1.4.2009 to 31.3.2014 has not been billed to the beneficiaries and therefore, no sales has been recognized on this account.

National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19

104. The petitioner has claimed return on equity considering base rate of 16.0% and effective tax rate of 22.584% in 2014-15 and 23.399% during the period 2015-16 to 2018-19.

105. This issue of base rate and effective tax rate being not confined to a single petition and being generic in nature as the issue is applicable to all NTPC petitions uniformly need deliberation. On this issue against specific query through ROP, the petitioner vide its affidavit dated 8.1.2016 in Petition no. 280/GT/2014 (Farakka STPS, Stage-III) has filed Auditor's Certificate regarding deposit of advance tax on generation business for the year 2014-15 as well as Income Tax return for the financial year 2014-15 (Assessment Year 2015-16). The Commission in order dated 23.8.2016 in Petition No. 300/GT/2014 had allowed the additional ROE of 0.50% for completion of the generating station within the time limit specified in Appendix-II of the 2009 Tariff Regulations. We have examined the documents submitted and observed that the regulation prescribe computation of effective tax rate on the basis of tax paid, still we deem it proper to allow grossing up on MAT rate considering the fact that the matter will be decided in 2016-17. Accordingly, the effective tax rate (MAT) of 20.961% has been considered for the year 2014-15 and 21.342% for the year 2015-16 onwards up to the year 2018-19 for the purpose of grossing up of base rate of 16.00%. Accordingly, the rate of Return on Equity works out to 20.243% for the year 2014-15 and 20.341% for the year 2015-16 onwards. This is however, subject to true-up. Accordingly, return on equity has been worked out as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	147647.59	148645.00	149058.39	149058.39	149265.39
Addition of Equity due to additional capital expenditure	997.40	413.40	0.00	207.00	0.00
Normative Equity-Closing	148645.00	149058.39	149058.39	149265.39	149265.39
Average Normative Equity	148146.29	148851.69	149058.39	149161.89	149265.39
Return on Equity (Base Rate)	16.00	16.00	16.00	16.00	16.00
Tax Rate for the year	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax)	20.243	20.341	20.341	20.341	20.341
Return on Equity(Pre Tax) annualised	**29989.25**	**30277.92**	**30319.97**	**30341.02**	**30362.07**

400 kV D/C Dadri-Loni Road Transmission Line

106. The petitioner has claimed return on equity considering base rate of 15.50%, additional return of 0.50% for completion of the transmission line within the time limit specified in Appendix-I of the 2014 Tariff Regulations and effective tax rate of 22.584% in 2014-15 and 23.399% during the period 2015-16 to 2018-19.

107. We have examined the matter. It is observed that there is time overrun of 16 months and 12 days for ckt-1 and 17 months and 18 days for ckt-2 of the transmission line and the same has been condoned by the Commission. Therefore, we have not considered the additional return of 0.50% for completion of the transmission line.

108. The ROE allowed for 400 kV D/C Dadri-Loni road transmission line is given below:-

(₹ in lakh)

	2014-15 (From 02.08.2014 to 07.09.2014)	**2014-15 (From 08.09.2014 to 31.03.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	1538.00	3175.06	3175.06	3175.06	3175.06	3175.06
Addition due to additional capital expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Closing Equity	1538.00	3175.06	3175.06	3175.06	3175.06	3175.06
Average Equity	1538.00	3175.06	3175.06	3175.06	3175.06	3175.06
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.705	19.705	19.705	19.705
Return on Equity (Pre Tax)	**30.57**	**349.70**	**625.65**	**625.65**	**625.65**	**625.65**

Interest on Loan

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

> ***"26. Interest on loan capital:*** *(1)The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*
> *(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.*
>
> *(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro*

rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.

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

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

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

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

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

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

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

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

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

National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19

110. Interest on loan has been worked out as under**:**

(a) The gross normative loan of ₹ 344511.05 lakh as on 1.4.2014 has been considered.

(b) Cumulative repayment of loan of ₹ 88581.24 lakh as on 31.3.2014 as considered in order dated 23.8.2016 in Petition No.300/GT/2014 has been considered as on 1.4.2014.

(c) Accordingly, the net normative opening loan as on 1.4.2014 works out to ₹ 255929.81 lakh.

(d) Addition to normative loan on account of the admitted additional capital expenditure has been considered on year to year basis.

(e) Depreciation allowed for the period has been considered as repayment of normative loan during the respective year for the period 2014-19.

(f) In line with the provisions of the regulation, the weighted average rate of interest has been calculated applying the actual loan portfolio existing as on 1.4.2014 along with subsequent additions during the period 2014-19, if any, for the generating station. In case of loans carrying floating rate of interest the rate of interest as provided by the petitioner has been considered for the purpose of tariff. The calculations for weighted average rate of interest on loan have been enclosed as Annexure-I to this order.

111. The necessary calculation for interest on loan is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan	344511.05	346838.32	347802.92	347802.92	348285.92
Cumulative repayment of loan upto previous year	88581.24	113432.89	138452.83	163507.53	188579.62
Net Loan Opening	255929.82	233405.44	209350.08	184295.39	159706.30
Addition due to additional capital expenditure	2327.27	964.59	0.00	483.00	0.00
Repayment of loan during the year	24901.38	25019.95	25054.69	25072.09	25089.49
Less: Repayment adjustment on account of de-capitalization	49.73	0.00	0.00	0.00	0.00
Net Repayment	24851.65	25019.95	25054.69	25072.09	25089.49
Net Loan Closing	233405.44	209350.08	184295.39	159706.30	134616.81
Average Loan	244667.63	221377.76	196822.73	172000.84	147161.55
Weighted Average Rate of Interest of loan	9.5506	9.4770	9.4530	9.4356	9.4356
Interest on Loan	**23367.24**	**20980.03**	**18605.56**	**16229.24**	**13885.54**

400 kV D/C Dadri-Loni Road Transmission Line

112. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be

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

(₹ in lakh)

Particulars	**2014-15 (From 02.08.2014 to 07.09.2014)**	**2014-15 (From 08.09.2014 to 31.03.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross loan opening	3588.66	7408.47	7408.47	7408.47	7408.47	7408.47
Cumulative Repayment upto DOCO/previous year	0.00	27.44	341.29	900.10	1458.91	2017.72
Net Loan-Opening	3588.66	7381.03	7067.18	6508.37	5949.56	5390.75
Additions during the year	0.00	0.00	0.00	0.00	0.00	0.00
Repayment during the year	27.44	313.85	558.81	558.81	558.81	558.81
Net Loan-Closing	3561.22	7067.18	6508.37	5949.56	5390.75	4831.94
Average Loan	3574.94	7224.11	6787.77	6228.96	5670.15	5111.34
Rate of Interest (%)	9.5506	9.5506	9.4770	9.4530	9.4356	9.4356
Interest	**34.61**	**387.50**	**643.28**	**588.82**	**535.01**	**482.28**

Depreciation

113. Regulation 27 of the 2014 Tariff Regulations provides as under:

> ***"27. Depreciation:*** *(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.*
>
> *Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.*
>
> *(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.*
>
> *(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:*

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

(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 on1.4.2014 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.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project(five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services."

National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19

114. The cumulative depreciation amounting to ₹ 88867.59 lakh as on 31.3.2014 as considered in order dated 23.8.2016 in Petition No. 300/GT/2014 has been considered for the purpose of tariff. Further, the value of freehold land included in the average capital cost has been adjusted while calculating depreciable value for the purpose of tariff.

115. Since as on 1.4.2014, the used life of the generating station is less than 12 years from the station COD, the depreciation shall be calculated by applying weighted average rate of depreciation for the year 2014-19.

116. The petitioner has claimed depreciation considering the weighted average rate of depreciation of 5.0426% for the period 2014-19, which has been calculated in conformity with the rates of depreciation as specified in Appendix-II of the 2014 Tariff Regulations. The same has been considered for calculating depreciation for the period 2014-19.

117. The petitioner is directed to furnish the details regarding un-recovered depreciation as on 31.3.2014 at the time of truing-up of tariff in terms of the 2014 Tariff Regulations. Accordingly, depreciation has been computed as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	492158.64	495483.32	496861.31	496861.31	497551.31
Add: Additional Capital Expenditure	3324.67	1377.99	0.00	690.00	0.00
Closing Capital Cost	495483.32	496861.31	496861.31	497551.31	497551.31
Average Capital Cost	493820.98	496172.31	496861.31	497206.31	497551.31
Value of freehold land	7919.64	7941.18	7941.18	7941.18	7941.18
Depreciable value (excluding land)@ 90%	437311.21	439408.02	440028.11	440338.61	440649.11
Balance depreciable Value	348443.63	325688.78	301288.93	276544.74	251783.15
Rate of depreciation	5.0426	5.0426	5.0426	5.0426	5.0426
Depreciation (annualized)	**24901.38**	**25019.95**	**25054.69**	**25072.09**	**25089.49**
Cumulative depreciation upto previous year	113768.97	138739.18	163793.88	188865.97	213955.45
Less: Cumulative depreciation adjustment on account of de-capitalization	49.73	0.00	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	113719.23	138739.18	163793.88	188865.97	213955.45

400 kV D/C Dadri-Loni Road Transmission Line

118. We have computed depreciation considering approved capital cost as on COD and allowed additional capitalisation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)

Particulars	2014-15 (From 02.08.2014 to 07.09.2014)	2014-15 (From 08.09.2014 to 31.03.2015)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	5126.66	10583.53	10583.53	10583.53	10583.53	10583.53
Additional Capitalization	0.00	0.00	0.00	0.00	0.00	0.00
Closing Gross block	5126.66	10583.53	10583.53	10583.53	10583.53	10583.53
Average Gross block	5126.66	10583.53	10583.53	10583.53	10583.53	10583.53
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280	5.280
Depreciable Value	4614.00	9525.18	9525.18	9525.18	9525.18	9525.18
Elapsed Life of the asset at beginning of the year	0	0	1	2	3	4
Weighted Balance Useful life of the asset	35	35	34	33	32	31
Remaining Depreciable Value	4614.00	9497.74	9211.32	8938.93	8380.12	7821.31
Depreciation	**27.44**	**313.85**	**558.81**	**558.81**	**558.81**	**558.81**

O&M Expenses

National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19

119. The Respondent No. 3, BRPL submitted that the petitioner should provide backup details of O& M expenses under Regulation 29(1) of the 2014 Tariff Regulations. The Respondent No. 3, BRPL has requested the Commission to direct NTPC for providing the actual details of O&M expenses clearly bifurcating and elaborating the employee expenses, A&G expenses and R&M expenses. The respondent, BRPL has further submitted that there is no such regulation which provides for allowing variation in O&M expenses. In this regard, BRPL is of the view that in this instant petition, actual expenses when compared with the normative O&M expenses based on provisions of MYT Regulations, might work out to be lower. Hence, the respondent has requested that the Commission should not allow any upward variation in normative O&M expenses. In response, the petitioner has submitted that the normative O&M expenditure, as provided in the 2014 Tariff Regulations, may not be sufficient to cover the actual O&M expenditure of the generating station after wage revision of employees.

120. Regulation 29 (1) (c) of the 2014 Tariff Regulations provides the year-wise O&M expense norms claimed for the generating station of the petitioner as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
16.00	17.01	18.08	19.22	20.43

121. Accordingly, the year-wise O&M expenses claimed by the petitioner in terms of the above said norms are allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
15680.00	16669.80	17718.40	18835.60	20021.40

Water Charges

122. The petitioner in its revised petition vide its affidavit dated 18.4.2016 has submitted the water charges of ₹187.32 lakh for 2014-15 for Dadri Stage-II.

(₹ in lakh)

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Water charges claimed	187.32	199.21	211.86	225.31	239.62

123. The petitioner was directed to provide the basis of claiming water charges for the period 2014-19. In response, the petitioner vide its affidavit dated 20.6.2016 submitted that there is a single reservoir for meeting the water requirement for whole of Dadri Station (i.e. for Dadri-I, Dadri-II and Dadri Gas Station) and accordingly, UP Irrigation Department is raising the invoices for payment of water charges for whole of Dadri Station. The petitioner has further submitted that the expenditure incurred towards the water charges for whole of Dadri Station was apportioned in the ratio of the steam turbine generation capacity of Dadri Stage-I (840 MW), Dadri Stage-II (980 MW) and Dadri Gas Station (2 Steam Turbine of 154.54 MW capacity each) and therefore, based on the reconciliation and final adjustment as per the invoices raised by UP irrigation department, the actual water charges incurred during 2014- 15 is ₹187.68 Lakh for Dadri Stage-II. The petitioner has further submitted that rate of water charges as per the notification of UP Irrigation Department is ₹12.48 per 1000 cubic feet on consumption basis and the rate of royalty as per the notification of UP Irrigation Department is ₹600000 per cusec per annum on consumption basis. In this regard, the

petitioner has also submitted the copy of said invoices of total ₹407.99 lakh during 2014-15 along with the notification of UP irrigation department. Thereafter, the petitioner has made the projections for subsequent years by escalating the value of 2014- 15 at 6.35% as per the escalation rate considered by the Commission in O&M charges for subsequent years from 2015-16 to 2018-19.

124. The water charges claimed by the petitioner are as follows:

Details of Water Charges for the FY 2014-15 for Dadri Stage-II					
S.No.	**Station**	**Unit Size**	**Capacity (MW)**	**Ratio based on capacity (%)**	**Expenditure booked (₹)**
1	Dadri Stage - I	4 x 210 MW	840	39	15911590
2	**Dadri Stage - II**	**2 x 490 MW**	**980**	**46**	**18767517**
3	Steam Turbine of Dadri Gas	2 x 154.54 MW	309.08	15	6119842
	Total		2129.08	100	40798949

125. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

> "*29.(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:*
>
> *Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:*
>
> *Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization"*

126. The Respondent No. 3, BRPL, Respondent No. 4, BYPL, and Respondent No. 2, TPDDL, has submitted that the claim for water charges is governed by Regulation 29(2) of the 2014 Tariff Regulations. Further, the respondents have suggested that water consumption needs to be determined on normative basis based on designed capacity less reduction on account of various water conservation measures and the petitioner should be directed to provide the basis of determining the escalation factor of 6.35% considered for the period 2014-19. The respondents have further submitted that petitioner has indicated water charges as a whole and has not provided the water consumption details that whether it is for NTPC housing colonies or for any other purpose other than plant and therefore, it is requested that the Commission should allow water charges on

the basis of water consumption for the plant only and may also benchmark the same as per the CEA Regulations of water level consumption of respective plant.

127. Further, the Respondent No. 3, BRPL has submitted that the petitioner has considered water charges as part of O&M expenses and thereby included the same as part of AFC, whereas definitions and interpretations (42) in the 2014 Tariff Regulations clearly excludes water charges as part of O&M expenses. Accordingly, the respondent has requested that the Commission should exclude water charges from O&M expenses. Further, the respondent has submitted that in accordance with Regulation 29(2) of the 2014 CERC Regulations, the water charges and capital spares shall be allowed separately and therefore, the water charges shall not be considered as part of O&M expenses and accordingly shall not be part of AFC. Also, in view of limiting water charges on normative basis, the respondent has suggested that recovery of normative water charges shall be linked to actual generation limited to the scheduled generation done for beneficiaries.

128. In response, the petitioner has submitted that in line with Regulation 29(2) of the 2014 Tariff Regulations, the petitioner at para 10 of the instant petition has furnished the details regarding water consumption as under:

Description	**Remarks**
Type of Plant	Coal
Type of cooling water system	Closed Circuit

129. Further, the petitioner has submitted that water charges claimed by the petitioner are subject to retrospective adjustment based on the actual expenditure incurred and details of the same will be provided at the time of true up after prudence check by the Commission.

130. We have examined the matter. It is noticed that the total water charges claimed by the petitioner during 2014-15 is based on the actual water consumption charges paid during the year 2014-15. We are however not inclined to allow any escalation in the water charges as the petitioner has not produced any documentary evidence which shows that water charges rate will be different

in subsequent years during the tariff period 2014-15 to 2018-19. Based on this, water charges for the period 2014-19 are allowed as under:

(₹in lakh)

Year	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Water charges allowed	187.68	187.68	187.68	187.68	187.68

131. The water charges allowed as above is subject to truing -up at the end of the tariff period for which the petitioner is directed to place on record all relevant information. Based on the above, the total O&M expenses including water charges as claimed by the petitioner and allowed for the purpose of tariff is as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
O&M Expenses as claimed	15680.00	16669.80	17718.40	18835.60	20021.40
O&M Expenses as allowed	**15680.00**	**16669.80**	**17718.40**	**18835.60**	**20021.40**
Water charges as claimed	187.32	199.21	211.86	225.31	239.62
Water charges as allowed	**187.68**	**187.68**	**187.68**	**187.68**	**187.68**
Total O&M Expenses as claimed (including Water charges)	15867.32	16869.01	17930.26	19060.91	20261.02
Total O&M Expenses as allowed(including Water charges)	**15867.68**	**16857.48**	**17906.08**	**19023.28**	**20209.08**

<u>400 kV D/C Dadri-Loni Road Transmission Line</u>

132. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause 3 of Regulation 29 of the 2014 Tariff Regulations. However, for the period from 2.8.2014 to 7.9.214, the petitioner has considered the line length of ckt-2, which was not commissioned during the period. Accordingly, we have computed O&M expenses for the period from 2.8.2014 to 7.9.2014 considering the line length of ckt-1 only.

133. The petitioner's entitlement of O&M Expenses has been worked out as given hereunder:-

(₹ in lakh)

		2014-15 (From 2.8.2014 to 7.9.2014)	2014-15 (From 8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	Single Circuit (Twin & Triple Conductor)	53.065	0.000	0.000	0.000	0.000	0.000
	Double Circuit	0.000	53.284	53.284	53.284	53.284	53.284

		2014-15 (From 2.8.2014 to 7.9.2014)	2014-15 (From 8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
	(Twin & Triple Conductor)						
Norms as per Regulation ((₹lakh/km))	Double Circuit (Twin & Triple Conductor)	0.707	0.707	0.731	0.755	0.780	0.806
Total (₹ in lakh)		**1.90**	**21.16**	**38.95**	**40.23**	**41.56**	**42.95**

Capital spares

134. The petitioner has not claimed capital spares on projection basis during the period 2014-19. Accordingly, the same has not been considered in this order. The claim of the petitioner, if any, at the time of truing-up, shall be considered on merits, after prudence check.

Operational Norms

135. The operational norms in respect of the generating station claimed by the petitioner are as under:

Target Availability (%)	83.00
Heat Rate (kcal/kWh)	2380.14
Auxiliary Energy Consumption (%)	5.25
Specific Oil Consumption (ml/ kWh)	0.50

136. The Respondent No. 3, BRPL, and Respondent No. 4, BYPL, have submitted that despite following up with the petitioner, it has finally implemented the normative operational parameters as specified in the 2014 Tariff Regulations only with respect to station heat rate and auxiliary consumption in November 2015 with effect from April 1, 2014., however, the petitioner is billing the normative SFOC based on the 2009 Tariff Regulations.

137. Further, with regard to the issue of sharing of financial gains, the respondent BYPL has submitted that it has already written various letters to the petitioner; however, till date the truing up has not been carried out and therefore, the petitioner shall be directed to carry out the truing up of operational parameters as specified in Regulation 8(6) of the 2014 Tariff Regulations and share the efficiency gain in the ratio of 60:40 between generating station and beneficiaries. The respondent

has further submitted that since there is a delay in carrying out the truing up, the petitioner shall also be directed to refund efficiency gain amount along with the carrying cost at the rate as stipulated in the 2014 Tariff Regulations.

138. In response, the petitioner has submitted that in accordance with Regulation 7 para 8 (i) of the 2014 Tariff Regulations, the billing for the energy supplied w.e.f. 1.4.2014 has been carried out on provisional basis as per the 2009 Tariff Regulations which includes component of Secondary Fuel Oil Cost (SFC) @ at 1 ml/kwh and the same will be adjusted with retrospective effect at the time of truing up for period 2014-19. The petitioner has further submitted that any financial gains, if any, on account of plant controllable parameters shall be shared with beneficiaries including the respondent with retrospective effect after issuance of final tariff orders for the period 2014-19.

139. The Respondent No. 4, BYPL has requested the Commission to provide details pertaining to sale of washery reject as discussed in the minutes of the meeting held on 22.02.2016 under the chairmanship of Special Secretary, Ministry of Coal regarding policy formulation on disposal of washery rejects / middling's /surplus coal etc and the relevant extract of the minutes is extracted as under:-

> *"In respect of coal being sold by CIL/its subsidiaries as part of linkages to regulated sector (power), it was observed that sale of coal from CIL took place on FOR colliery basis. The title of the goods is transferred to the buyer once the consignment leaves colliery premises. The coal was getting washed by a bi-lateral arrangement between the buyer and the washery operator. It was considered that the linkage holder should provide data to the respective power regulator relating to quantity of raw and washed coal, quantity of washery rejects generated, cost of washing, value of washery rejects got by the linkage holder, etc. The data so received by the power regulator may be made a factor in determining the tariff of power. Hence, it was decided to consult Ministry of Power on this issue. "*

140. In response, the petitioner has submitted that it has furnished all the relevant information in accordance with the 2014 Tariff Regulations.

141. The operational norms claimed by the petitioner are in accordance with Regulation 36 of the 2014 Tariff Regulations and discussed as under:

Normative Annual Plant Availability Factor (NAPAF)

142. Regulation 36 (A) (a) of the 2014 Tariff Regulations provides as under:

> *"(a) All Thermal generating stations, except those covered under clauses (b) (c) (d) & (e)- 85%.*
>
> *Provided that in view of the shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed.*
>
> *The above provision shall be reviewed based on actual feedback after 3 years from 01.04.2014."*

143. The petitioner has considered the target availability norm of 83% during 2014-19.

144. The Respondent No. 3, BRPL and Respondent No. 4, BYPL, have submitted that in accordance with Regulation 36 of the 2014 Tariff Regulations, Normative Annual Plant Availability Factor ('NAPAF') should be 85%, and, the regulations allow that in case of shortage of coal and uncertainty of assured coal supply on sustained basis, NAPAF shall be 83%. The respondent have further submitted that petitioner has unilaterally reduced the NAPAF at 83% and it may be noted that the petitioner in instant petition has not pleaded for any relaxation in the NAPAF and has claimed to recover fixed charges at 85% NAPAF. The respondent have further submitted that the Ministry of Coal in its Press Release dated 11.02.2016 has specifically mentioned that coal stock has improved and the stock amounted to average of 24 days as under:

> *"Power Utilities of the country are flush with coal as coal stocks at their end as of 31 December 2015 at 31.05 Million Tonnes was more than double compared to same period previous year. The stock amounted to average of 24 days with no power utility at critical or supercritical condition. Compared to this, as of 31 December 2014, coal stock at power utilities was 13.97 Million Tonnes equivalent to 9 days with 42 utilities in critical condition and 19 utilities reeling under supercritical condition."*

145. Accordingly, respondents, BRPL and BYPL have requested that the Commission should direct the petitioner to restate the NAPAF as 85% for billing purposes and to refund additional amount recovered.

146. Further, the Respondent No. 2, TPDDL, has submitted that Regulation 36 of the 2014 Tariff Regulations had specified for NAPAF of 83% considering the shortage in supply of domestic coal at the relevant time, however, the coal supply scenario has changed and there is adequate supply of

domestic coal for generating stations. Hence, the respondent has requested that the Commission should remove the aforementioned relaxation as the same in not required anymore.

147. The Respondent No. 3, BRPL has submitted that in accordance to the clause 22 of order dated 23.10.2015 in Petition No. 302/MP/2013 the units of plant cannot be scheduled beyond the 100% of installed capacity and accordingly, it has sent letters to NRLDC stating that RLDC/SLDC should not allow declared capacity (DC) of a plant to be greater than 100% of installed capacity and to revise the DC of all plants which are greater than 100% of installed capacity to enable NRPC to revise those REAs as well. The respondent has further submitted that NRLDC has also endorsed this stand during the 117th OCC meeting, wherein NRLDC has concluded that a generator cannot declare DC greater than its installed capacity and also, it is observed that in the NRPC REA for the month of March 2014, the PAFM for Dadri Stage-II Power Station is more than 100%. Accordingly, the respondent has requested that the Commission should issue necessary directions to the petitioner.

148. The petitioner has submitted that the Power Demand will continue to remain low and the PLF remains at the lower levels and thus seeks liberty to approach Commission for relaxation of Operating norms. On this issue, the Respondent No. 3, BRPL has submitted that the low demand from Discoms is not a ground for review of NAPAF as per the 2014 Tariff Regulations and such review is permissible only in the event of shortage of coal and uncertainty of assured coal supply on sustained basis. Therefore, the respondent, BRPL has requested that the petitioner should undertake reality check about its high cost generation.

149. In response, the petitioner has submitted that it has computed Annual Fixed Charges (AFC) for the period 2014-19 at an availability of 83% in accordance with Regulation 36(A)(a) of the 2014 Tariff Regulations. It has further submitted that the recovery of monthly fixed charges from the beneficiaries for the instant station has also been carried out at an availability of 83% as per the 2014 Tariff Regulations and therefore, declaring declared capacity (DC) of the instant station more than 100% of installed capacity does not affect the respondent.

150. Further, the petitioner has submitted that in order to mitigate the risk of recovery of fixed charges by the generators, the 2014 Tariff Regulations specify that in view of shortage of coal and uncertainty of assured coal supply on sustained basis, the fixed charges will be recovered at availability of 83% which shall be reviewed by CERC after 3 years from 01.04.2014. Therefore, the petitioner has submitted that the assumption of 83% NAPAF till 2016-17 is in accordance with the 2014 Tariff.

151. We have examined the matter. The Commission due to shortage of domestic coal supply has provisionally relaxed the target availability norm to 83% for first 3 years from 1.4.2014 and the same shall be reviewed after 3 years. Accordingly, in terms of the Regulation 36(A) of the 2014 Tariff Regulations, the Target Availability of 83% is provisionally considered for the period 2014-17 and 85% for the period 2017-19.

Heat Rate (kCal/kWh)

152. Regulation 36(C) (c) of the 2014 Tariff Regulations as under:

> *"36 (C) Gross Station Heat Rate:-*
> *(c) Thermal Generating Station having COD on or after 1.4.2009 till 31.3.2014*
> *(i) Coal-based and lignite-fired Thermal Generating Stations = 1.045 x Design Heat Rate (kCal/kWh)*
>
> *Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:*
>
> *Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 2009-10 to FY 2013-14"*

153. The design heat rate as submitted by the petitioner in Form-2 of the petition is 2277.65 kcal/kWh, on the basis of turbine cycle heat rate of 1936.00 kcal/ kWh and Boiler Efficiency of 85%. Accordingly, the Gross Station Heat Rate (GSHR) of the generating station for the period 2014-19 as considered by the petitioner is 2380.14 kCal/kWh (=1.045x1936.00/0.85)

154. The Respondent No. 3, BRPL has requested the Commission to further tighten the GHR norms as this would enable the Discom to utilize this plant to its maximum capacity. In response, the petitioner has submitted that operational norms like heat rate, APC, specific fuel oil consumption are significantly affected by part load operation resulting in to reduction in PLF irrespective of the reasons for such reduction on PLF. The petitioner has further submitted that the norms were decided by the Commission based on performance of generating stations during the previous period i.e. 2008-13 and even at the time of notification of 2014 Tariff Regulations, some of the stations were unable to achieve these parameters. It has further submitted that as recorded in SOR of 2014 Tariff Regulations, the stringent operating norms were made based on assumption that the PLF of stations will improve with improvement in economy in period 2014-19.

155. We have examined the matter. It is observed that Turbine Cycle Heat Rate and Boiler Efficiency are based on 90.40% MCR and not on 100% MCR. Therefore, Maximum Design Heat Rate may be restricted to 2276 kCal/kWh in accordance with Regulation 26(ii)(B) of the 2009 Tariff Regulations. In view of the above, the GSHR works out to 2378.42 kCal/kWh (1.045 x 2276 kCal/kWh) and the same has been considered for the purpose of tariff for the period 2014-19.

Auxiliary Energy Consumption

156. The petitioner has claimed Auxiliary Energy Consumption at 5.25% during period 2014-19. Regulation 36(E)(a) of 2014 Tariff Regulations, provides for the Auxiliary Energy Consumption of 5.25% for coal based generating stations of 500 MW sets with Natural Draft cooling tower or without cooling tower with steam driven BFP. Hence, the Auxiliary Energy Consumption considered by the petitioner is as per norms and is allowed.

Specific Oil Consumption

157. The Respondent No. 3, BRPL, and Respondent No. 4, BYPL, have submitted that the petitioner in instant petition has considered the SFC as 0.5 ml/kWh in accordance with the 2014 Tariff Regulations, however, the petitioner continues to bill at 1 ml/kWh. Accordingly, the respondents have requested that the Commission should direct the petitioner to comply with the

2014 Tariff Regulations and bill SFOC at 0.5 ml/kWh and to refund additional amount recovered till date.

158. We have examined the matter. Regulation 36(D)(a) of the 2014 Tariff Regulations provides secondary fuel oil consumption of 0.50 ml/kWh for coal-based generating station. Hence, the secondary fuel oil consumption considered by the petitioner is as per norms and is allowed.

Interest on Working Capital

159. Sub-section (a) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"28. Interest on Working Capital:*
> *(1) The working capital shall cover*
>
> *(a) Coal-based/lignite-fired thermal generating stations*
>
> *(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
>
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*
>
> *(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
>
> *(iv)Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;*
>
> *(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*
>
> *(vi) Operation and maintenance expenses for one month."*

<u>National Capital Thermal Power Station Stage-II (2x490 MW) during period 2014-19</u>

Fuel Components and Energy Charges in working capital

160. The petitioner has claimed the cost for fuel components in working capital based on "as fired" GCV of coal procured and burnt for the preceding three months of January, 2014, February, 2014

and March, 2014 and secondary fuel oil for the preceding three months of January, 2014, February, 2014 and March, 2014, as under:

(₹ in lakh)

Sl. No.		2014-15	2015-16	2016-17	2017-18	2018-19
1A	Cost of Coal for Stock for 30 days	17990.59	18039.88	17990.59	17990.59	17990.59
1B	Cost of Coal for Generation for 30 days	17990.59	18039.88	17990.59	17990.59	17990.59
2	Cost of Main Secondary Fuel Oil for 2 months	216.58	217.18	216.58	216.58	216.58

161. The Respondent No. 3, BRPL has submitted that the petitioner has not provided the details of stock storage neither in bills nor in any declarations. Accordingly, it has requested the Commission to direct the petitioner to provide the actual details on the cost of coal for all its generating stations as per CERC Regulations, 2014. In response, the petitioner has submitted that details of coal storage capacity of Dadri Station has been furnished by the petitioner in Form-3 at page No 22 of the instant Petition. It has further submitted that the petitioner has provided all the information to the respondent related to cost of coal for its generating stations on monthly basis as per the 2014 Tariff Regulations.

162. Further, the Respondent No. 4, BYPL has submitted that Regulation 30(6)(a) of the 2014 Tariff Regulations specify the formula for determination of energy charge rate. One of the components "CVPF" is to be determined as under:

> "CVPF=Weighted Average Gross calorific value of coal as received, in kcal per kg for coal based stations"

163. The respondent, BYPL has further submitted that petitioner has not furnished details of "GCV as billed" and since "GCV as billed" would be a close replica of "GCV as received", it would be prudent to consider GCV as billed to determine GCV as received, till petitioner puts in place infrastructure to determine GCV on receipt basis. In this regard, the respondent has requested that the petitioner may be directed to furnish methodology for determination of "GCV as fired" along with details of current infrastructure like lab, equipment, etc. to measure GCV at the time of firing. The respondent, BYPL has further submitted that as per Note 2 of Form 15, petitioner is required to

submit “as billed” and “as received” GCV, quantity of coal and therefore, price should be submitted as certified by Statutory Auditor, however the same has not been submitted.

164. The Respondent No. 3, BRPL, has submitted that petitioner does not have infrastructure for measuring GCV of Coal on “as received” basis. The respondent has further submitted that the Commission in the 2014 Tariff Regulations has very clearly prescribed the measurement of GCV on “as received” basis but the petitioner even after such a long period of time has not made any arrangement for measurement of GCV on “as received” basis even by resorting to manual sampling. It has further submitted that from Form 15, it can be noted that there is huge gap between the weighted average GCV of coal as billed and the weighted average GCV of Coal as fired. The respondent has further submitted that the weighted average GCV of coal as billed and the weighted average GCV of Coal as fired during the month of January, 2014, February 2014 and March 2014 in respect of National Capital T PS, Stage-II as furnished vide affidavit dated 29.10. 2014 is furnished below;

SI. No.	Description	Jan. 2014	Feb. 2014	Mar. 2014
1.	Weighted average GCV of coal as billed in kCal/Kg	4571.12	4449.93	4873.00
2.	Weighted average GCV of coal as fired in kCal/Kg	3700.00	3641.00	3552.00
	Difference	871.12	808.93	1321.00

.

Thus, in view of the above table, the respondent, BRPL has submitted that there is huge difference between the weighted average GCV of coal “as billed” and the weighted average GCV of Coal “as fired” and the loss in the calorific value due to self ignition, windage, spillage etc. is only a minuscule proportion of the difference between the weighted average GCV of coal as billed and the weighted average GCV of Coal 'as fired'.

165. The Respondent No. 3, BRPL and Respondent No. 1, UPPCL have submitted that the Commission in its order dated 25.1.2016 in Petition No. 283/GT/2014 regarding approval of Tariff for the Kahalgaon STPS, Stage-ll(1500MW) for the period 2014-19 had decided as under:-

“(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on received basis should be measured by taking samples

after the crusher set up inside the generating station, in terms of Regulation 30(6) of the 2014 Tariff regulations.
(b) The sample for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provision of IS 436 (Part 1/Section1)-1964 before the coal is unloaded. While collecting the Samples, the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples, the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436 (Part 1/Section1)- 1964 which has been elaborated in the CPRI Report to PSERC."

Accordingly, in view of above decision of the Commission, the respondents BRPL and UPPCL have suggested that samples for purpose of measurement of GCV of coal should be on "as received" basis and for this purpose sample must be collected from the loaded wagons at the generating stations.

166. In response, the petitioner has submitted that the GCV of coal as loaded by the Coal Companies, based on which the bills are raised by the coal companies on the purchaser of coal is different from the GCV as measured on "as received basis". The petitioner has further submitted that the aspect on the grade slippage from the time of loading till the measurement on "as received basis" has been a subject matter of representation to the Government of India and has also been a subject matter of the proceedings before the Commission of India. Till an acceptable and satisfactory resolution of the above aspects, the petitioner has submitted that there is no option but to proceed on the basis that there is a grade slippage in regard to the GCV measured at the time of loading and measured at the time on "as received basis". On the issue of grade slippage, the petitioner has further submitted that it has formed a high level committee comprising of Director (Operation) NTPC, Director (Marketing) CIL as Co-Chairman and other stakeholders such as the Railways, CEA, & other State Gencos to address the issue. The petitioner has also liasioned with CIL on this issue and consequently, third party sampling of GCV at the mine end has been introduced to ensure greater transparency in the system. The petitioner has further submitted that, as approved in Commission's order dated 19.02.2016 in Petition No. 33/MP/2014, the cost of any slippage in the grade of coal between the loading point and NTPC's stations is not to be borne by Generators but by the beneficiaries.

167. The petitioner has further submitted that it is entitled to measure GCV on an “as received” basis for the purpose of levying Energy Charges under the 2014 Tariff Regulations and accordingly, it has been measuring GCV on an “as received” basis and levying Energy Charges on its beneficiaries. It has also submitted that neither the Tariff Regulations nor the CERC’s order dated 25.01.2016 in Petition No. 283/GT/2014 provide that a generator is required to levy Energy Charges as per the GCV measured at the loading point and as notified by CIL.

168. The petitioner has further submitted that vide affidavit dated 29.10.2014 it has already furnished the Auditor’s Certificate with respect to Form 15 for the instant station, and in the said Form-15, it has also indicated that since the GCV of washed/ washery grade coal is not available, GCV of domestic coal as per bill of coal companies was not shown in the instant petition.

169. With regard to the blending ratio of domestic coal and imported coal, the Respondent No. 3, BRPL has submitted that the petitioner should provide the blending ratio of domestic coal and imported coal so that in case of any variation in the cost and as well as ratio, prior permission of beneficiary shall be obtained as per the 2014 Tariff Regulations. It has further submitted that while approving the variable cost, the petitioner shall be directed to provide the status of FSA and actual coal supply under FSA shall be analysed so that beneficiary permission shall be obtained by the petitioner before procuring imported coal. In response, the petitioner has submitted that it has furnished the details of blending ratio of domestic coal and imported coal in Form-15 of the instant petition.

170. The petitioner has submitted that power demand will continue to remain low and PLF remains at the lower levels and thus seeks liberty to approach Commission for relaxation of operating norms. On this issue, The Respondent No. 3, BRPL has submitted that the low demand from Discoms is not a ground for review of NAPAF as per the 2014 Tariff Regulations and such review is permissible only in the event of shortage of coal and uncertainty of assured coal supply on sustained basis. The respondent has further submitted that the petitioner should undertake reality check about its high cost of generation.

171. The petitioner was directed to submit the GCV of coal on “as received‟ basis for the month of April 2014 to June 2014. In response, the petitioner vide affidavit dated 20.6.2016 has submitted that from Aug. 2014 onwards, sampling for measurement of “as received” GCV is being taken from secondary crusher. The petitioner has further submitted that the issue of “as received” GCV for computation of energy charges was challenged by NTPC and other generating companies through writ petition in the Hon’ble High Court of Delhi and the said writ petition was heard on 7.9.2015 and the Hon’ble High Court of Delhi had directed that the Commission shall decide the place from where the sample of coal should be taken for measurement of GCV of coal on as received basis within 1 month on the request of petitioners.

172. As per the directions of the Hon'ble High Court of Delhi, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 has decided as under:

> *“58. In view of the above discussion, the issues referred by the Hon’ble High Court of Delhi are decided as under:*
> *(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station, in terms of Regulation 30(6) of the 2014 Tariff regulations.*
>
> *(b) The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples, the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples, the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”*

173. Further, the petitioner has claimed energy charge rate (ECR) of 321.696 Paise/kWh based on the weighted average price, GCV of coal (as fired basis) & oil procured and burnt for the preceding three months.

174. We have examined the matter. It is observed that the petitioner has not placed on record the GCV of coal on “as received‟ basis though the petitioner was statutorily required to furnish such information with effect from 1.4.2014. In compliance with the direction of the Hon’ble High Court of

Delhi, the Commission in its order dated 25.1.2016 in Petition No. 283/GT/2014 has clarified that the measurement of GCV of coal on as received basis shall be taken from the loaded wagons at the unloading point either manually or through the Hydraulic Augur. The petitioner has not submitted the required data regarding measurement of GCV of coal in compliance with the directions contained in the said order dated 25.1.2016. The Commission in various tariff orders, pertaining to determination of tariff, viz. Simhadri Stage-I (order dated 27.6.2016 in Petition No. 270/GT/2014), Vindhyachal STPS Stage-II (order dated 6.2.2017 in Petition No. 327/GT/2014), Mauda Stage-I (order dated 11.2.2017 in Petition No. 328/GT/2014), Ramagundam Stage-I & II (order dated 24.1.2017 in Petition No. 292/GT/2014), Kahalgaon stage-II (order dated 21.1.2017 in Petition No. 283/GT/2014), Rihand STPS Stage-III (order dated 6.2.2017 in Petition No. 372/GT/2014) etc., for the period 2014-19 had allowed fuel components and 2 months of Energy Charges in working capital considering the GCV of coal on 'as billed' basis and had allowed the adjustment formulae for total moisture as under:

$$\frac{GCV \times (1-TM)}{(1-IM)}$$

Where: GCV=Gross Calorific value of coal
TM=Total moisture
IM= Inherent moisture

175. In the absence of GCV of coal on 'as billed' as well as on 'as received' basis for the preceding 3 months i.e. January, 2014, February, 2014 and March, 2014, the computation of fuel component and 2 months Energy charges in working capital has not been considered for the period 2014-19.

176. In view of this, Interest on Working capital (IWC) is allowed without any fuel components and 2 months Energy Charges in Working Capital. It is up to the petitioner to get GCV 'as billed' from the coal supplier and work out the IWC components.

Maintenance spares

177. The petitioner has claimed maintenance spares in the working capital as under:

(₹ in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
3173.46	3373.80	3586.05	3812.18	4052.20

178. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the operation & maintenance expenses as specified in Regulation 29. In terms of Regulation 29 (2) of the 2014 Tariff Regulations, the maintenance spares @ 20 %of the operation & maintenance expenses including water charges, allowed are as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
3173.54	3371.50	3581.22	3804.66	4041.82

Receivables

179. As discussed above paras, energy charges have not considered in tariff determination.

180. Clause 6 sub-clause (a) of Regulation 30 of the 2014 Tariff Regulations provides for computation and payment of Capacity Charge and Energy Charge for thermal generating stations:

> *"6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula*:
>
> *(a) For coal based and lignite fired stations*
>
> *ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)*
>
> *Where,*
>
> *AUX = Normative auxiliary energy consumption in percentage.*
>
> *CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*
>
> *CVSF = Calorific value of secondary fuel, in kCal per ml.*
>
> *ECR = Energy charge rate, in Rupees per kWh sent out.*
>
> *GHR = Gross station heat rate, in kCal per kWh.*
>
> *LC = Normative limestone consumption in kg per kWh.*
>
> *LPL = Weighted average landed price of limestone in Rupees per kg.*
>
> *LPPF = Weighted average landed price of primary fuel, in Rupees per kg*

181. The petitioner has claimed an ex-bus Energy Charge Rate (ECR) of ₹3.217/kWh for the period 2014-19. However, The Commission has not allowed the fuel charges as a part of the energy charges as discussed in Para 176 above. However the expenditure on account of Secondary fuel oil component has been considered as a part of Receivables.

182. Accordingly, the base energy charge of ₹0.019/kWh determined based on the price and GCV of Secondary fuel oil for the preceding three months and calculated in accordance with the 2014 Tariff Regulations is allowed as under:

Description	Unit	2014-19
Capacity	MW	980 MW
Specific Fuel Oil Consumption	ml/kWh	0.50
Weighted Average GCV of Oil	kCal/l	9779.80
Weighted Average Price of Oil	₹/ml	36475.40
Rate of Energy Charge ex-bus per kWh	**₹/kWh**	**0.020**

183. Accordingly, Receivables equivalent to two months of capacity charge and energy charges has been worked out and allowed as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
*Secondary fuel oil (two months)	225.04	225.66	225.04	230.47	230.47
Fixed Charges (two months)	16162.53	16000.19	15794.03	15593.43	15410.30
Total	**16387.58**	**16225.85**	**16019.07**	**15823.90**	**15640.76**

** The Commission has not allowed the fuel charges as a part of the energy charges as discussed in Para 176. However the expenditure on account of Secondary fuel oil component has been considered as a part of Receivables.*

O&M Expenses

184. O&M expenses for 1 month claimed by the petitioner for the purpose of working capital are as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1322.28	1405.75	1494.19	1588.41	1688.42

185. Based on the O&M expense norms specified by the Commission, the O&M expenses for 1 month is allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1322.31	1404.79	1492.17	1585.27	1684.09

Rate of interest on working capital

186. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"Interest on working Capital: (3) 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 generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later."*

187. In terms of the above regulations, SBI PLR of 13.50% (Bank rate 10.00 + 350bps) has been considered for the purpose of calculating interest on working capital. Interest on working capital has been computed as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of coal towards stock- 30 days	0.00	0.00	0.00	0.00	0.00
Cost of coal towards generation- 30 days	0.00	0.00	0.00	0.00	0.00
Cost of secondary fuel oil- 2 months	225.04	225.66	225.04	230.47	230.47
O & M expenses- 1 Month	1322.31	1404.79	1492.17	1585.27	1684.09
Maintenance Spares	3173.54	3371.50	3581.22	3804.66	4041.82
Receivables- 2 months	16387.58	16225.85	16019.07	15823.90	15640.76
Total Working Capital	**21108.46**	**21227.79**	**21317.50**	**21444.30**	**21597.13**
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**2849.64**	**2865.75**	**2877.86**	**2894.98**	**2915.61**

<u>400 kV D/C Dadri-Loni Road Transmission Line</u>

188. As per the 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 13.50% (SBI Base Rate of 10% plus 350 basis points).

189. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)

	2014-15 (From 2.8.214 to 7.9.2014)	**2014-15 (From 8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	0.29	3.17	5.84	6.03	6.23	6.44
O & M expenses	0.16	1.76	3.25	3.35	3.46	3.58
Receivables	16.13	182.93	318.48	309.42	300.48	291.74
Total	16.57	187.87	327.57	318.81	310.18	301.76
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**2.24**	**25.36**	**44.22**	**43.04**	**41.87**	**40.74**

190. Accordingly, the annual fixed charges approved for the generating station and the transmission line for the period 2014-19 is summarized as under**:**

<u>National Capital Thermal Power Station Stage-II (2x490 MW)</u>

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	24901.38	25019.95	25054.69	25072.09	25089.49

	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan	23367.24	20980.03	18605.56	16229.24	13885.54
Return on Equity	29989.25	30277.92	30319.97	30341.02	30362.07
Interest on Working Capital	2849.64	2865.75	2877.86	2894.98	2915.61
O&M Expenses	15867.68	16857.48	17906.08	19023.28	20209.08
Total	**96975.20**	**96001.13**	**94764.16**	**93560.61**	**92461.79**

<u>400 kV D/C Dadri-Loni Road Transmission Line</u>

(₹ in lakh)

Particulars	**2014-15 (From 2.8.214 to 7.9.2014)**	**2014-15 (From 8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	27.44	313.85	558.81	558.81	558.81	558.81
Interest on Loan	34.61	387.50	643.28	588.82	535.01	482.28
Return on Equity	30.57	349.70	625.65	625.65	625.65	625.65
Interest on Working Capital	2.24	25.36	44.22	43.04	41.87	40.74
O&M Expenses	1.90	21.16	38.95	40.23	41.56	42.95
Total	**96.76**	**1097.57**	**1910.91**	**1856.55**	**1802.90**	**1750.42**

Month to Month Energy Charges

191. Clause 6 sub-clause (a) of Regulation 30 of the 2014 Tariff Regulations provides for computation and payment of Capacity Charge and Energy Charge for thermal generating stations:

> *"6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*
>
> *(a) For coal based and lignite fired stations*
> *ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)*
> *Where,*
> *AUX = Normative auxiliary energy consumption in percentage.*
> *CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*
> *CVSF = Calorific value of secondary fuel, in kCal per ml.*
> *ECR = Energy charge rate, in Rupees per kWh sent out.*
> *GHR = Gross station heat rate, in kCal per kWh.*
> *LC = Normative limestone consumption in kg per kWh.*
> *LPL = Weighted average landed price of limestone in Rupees per kg.*
> *LPPF = Weighted average landed price of primary fuel, in Rupees per kg*

192. The petitioner shall compute and claim the Energy Charges on month to month basis from the beneficiaries based on the formulae given under Regulation 30(6)(a) of the 2014 Tariff Regulations, 2014 read with Commission's order dated 25.1.2016 in Petition No. 283/GT/2014.

193. The petitioner has been directed in order dated 19.2.2016 in Petition No. 33/MP/2014 to introduce helpdesk to attend to the queries of the beneficiaries with regard to the Energy Charges. Accordingly, contentious issues if any, which arise regarding the Energy Charges, should be sorted out with the beneficiaries at the Senior Management level.

Application Fee and Publication Expenses

194. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19.

195. Respondent No. 2, TPDDL, has submitted that in accordance with Regulation 52(1) of the 2014 Tariff Regulations, relief in recovery of filing fees and publication expenses is discretionary, however, the Commission in its order dated 11.9.2008 in Petition No. 129 of 2005 has held that the Central Power Sector Undertakings are statutory required to approach the Commission for determination and approval of the tariff and hence declined the claim of the Central Power Sector undertakings for allowing the reimbursement of the application filing fee. The respondent has therefore requested that the petitioner's claim for recovery of filing fees and publication expenses should not be allowed.

196. In response, the petitioner has submitted that order dated 11.9.2008 in Petition No. 129 of 2005 is a specific case and not to be used as precedence. The petitioner has further submitted that the Commission in its various tariff orders during the period 2009-14 had allowed the reimbursement of tariff filling fee and publication expenses with respect to various generating stations of the petitioner.

197. The petitioner has deposited the filing fees for the period 2014-15 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 5.1.2016 in Petition No. 232/GT/2014, we direct that the petitioner shall be entitled to recover *pro rata,* the filing fees and the expenses incurred on publication of notices for the period

2014-15 directly from the respondents on submission of documentary proof. The filing fees for the remaining years of the tariff period 2015-19 shall be recovered pro rata after deposit of the same and production of documentary proof.

95. The annual fixed charges approved for the period 2014-19 as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

96. Petition No. 324/GT/2014 is disposed of in terms of the above.

Sd/-	Sd/-
(Dr. M.K.Iyer)	**(A. S. Bakshi)**
Member	**Member**

Annexure-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)

(₹ in lakh)

Particulars	Interest Rate					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
United Bank II Dr 3	10.2301	10.0000	10.0000	10.0000	10.0000	10000.00	0.00	10000.00
United Bank III Dr I	10.2301	10.0000	10.0000	10.0000	10.0000	5000.00	0.00	5000.00
SBI IV T1 Dr 2	11.0000	11.0000	11.0000	11.0000	11.0000	4500.00	0.00	4500.00
SBI IV T1 Dr 5	11.0000	11.0000	11.0000	11.0000	11.0000	10000.00	0.00	10000.00
SBI IV T1 Dr 7	11.0000	11.0000	11.0000	11.0000	11.0000	6000.00	0.00	6000.00
SBI V T1 Dr 2	11.0000	11.0000	11.0000	11.0000	11.0000	3000.00	0.00	3000.00
Andhra Bank T1 Dr 1	10.2500	10.2500	10.2500	10.2500	10.2500	4000.00	0.00	4000.00
Central Bank of India III Dr 2	10.2500	10.2500	10.2500	10.2500	10.2500	10000.00	0.00	10000.00
Central Bank of India IV T1 Dr 1	10.2500	10.2500	10.2500	10.2500	10.2500	1000.00	0.00	1000.00
IDFC I T1 Dr 1	10.0100	10.0100	10.0100	10.0100	10.0100	10000.00	0.00	10000.00
IDFC II T1 Dr I	9.9159	9.8000	9.8000	9.8000	9.8000	5000.00	0.00	5000.00
IDFC II T1 Dr 2	9.9159	9.8000	9.8000	9.8000	9.8000	6000.00	0.00	6000.00
LIC III Tr 1 Dr 5	8.2771	8.2771	8.2771	8.2771	8.2771	9500.00	0.00	9500.00
LIC IV Tr I Dr I	9.6400	9.6400	9.6400	9.6400	9.6400	7000.00	0.00	7000.00
LIC IV Tr I Dr 2	9.7700	9.7700	9.7700	9.7700	9.7700	10000.00	0.00	10000.00
LIC V Tr I Dr II	11.0000	11.0000	11.0000	11.0000	11.0000	7500.00	0.00	7500.00
Oriental Bank of Commerce T1 Dr I	10.2500	10.2500	10.2500	10.2500	10.2500	6000.00	0.00	6000.00
Oriental Bank of Commerce T1 Dr 4	10.2500	10.2500	10.2500	10.2500	10.2500	5000.00	0.00	5000.00
PNB II T1 Dr 2	10.2500	10.2500	10.2500	10.2500	10.2500	5000.00	0.00	5000.00
South Indian Bank II Dr 1	12.4000	12.4000	12.4000	12.4000	12.4000	100.00	0.00	100.00
Vijaya Bank II T1 Dr 2	10.2492	10.2500	10.2500	10.2500	10.2500	3500.00	0.00	3500.00
Allahabad Bank II T1 Dr 3	7.0000	7.0000	7.0000	7.0000	7.0000	2000.00	0.00	2000.00
Tamilnad Mercentile Bank T1 Dr I	10.7500	10.7500	10.7500	10.7500	10.7500	5000.00	0.00	5000.00
PFC V Dr 3	9.7000	9.7000	9.7000	9.7000	9.7000	9500.00	0.00	9500.00
PFC V Dr 5	9.5000	9.5000	9.5000	9.5000	9.5000	5500.00	0.00	5500.00
PFC V Dr 6	9.3200	9.3200	9.3200	9.3200	9.3200	10000.00	0.00	10000.00
PFC V Dr 9	9.3900	9.3900	9.3900	9.3900	9.3900	5000.00	0.00	5000.00
PFC V Dr 11	9.3200	9.3200	9.3200	9.3200	9.3200	2500.00	0.00	2500.00
PFC V Dr 16	9.3800	9.3800	9.3800	9.3800	9.3800	5000.00	0.00	5000.00
PFC V Dr 17	9.3800	9.3800	9.3800	9.3800	9.3800	10000.00	0.00	10000.00

Particulars	Interest Rate					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
PFC V Dr 19	8.7700	8.7700	8.7700	8.7700	8.7700	2500.00	0.00	2500.00
PFC V Dr 20	8.6300	8.6300	8.6300	8.6300	8.6300	2000.00	0.00	2000.00
SBI V T1 Dr 3	11.0000	11.0000	11.0000	11.0000	11.0000	5000.00	0.00	5000.00
SBI V T1 Dr 7	11.0000	11.0000	11.0000	11.0000	11.0000	2500.00	0.00	2500.00
Bonds XXII	8.2071	8.2071	8.2071	8.2071	8.2071	500.00	0.00	500.00
Bonds XXIV	8.6377	8.6377	8.6377	8.6377	8.6377	4000.00	0.00	4000.00
Bonds XXV	9.4000	9.4000	9.4000	9.4000	9.4000	5000.00	0.00	5000.00
Bonds XXVI	9.0900	9.0900	9.0900	9.0900	9.0900	12500.00	0.00	12500.00
Bonds XXVII	11.2800	11.2800	11.2800	11.2800	11.2800	22500.00	0.00	22500.00
Bonds XXIX	8.6800	8.6800	8.6800	8.6800	8.6800	1400.00	0.00	1400.00
Bonds XXX	7.9200	7.9200	7.9200	7.9200	7.9200	20000.00	0.00	20000.00
Bonds XXXIII	8.7600	8.7600	8.7600	8.7600	8.7600	1700.00	0.00	1700.00
Bonds XXXIV	8.7400	8.7400	8.7400	8.7400	8.7400	500.00	0.00	500.00
Bonds XXXV	8.8150	8.8150	8.8150	8.8150	8.8150	1500.00	0.00	1500.00
PFC V T1 Dr 22	9.9700	9.9700	9.9700	9.9700	9.9700	1000.00	0.00	1000.00
PFC V Dr 23	10.0000	10.0000	10.0000	10.0000	10.0000	1000.00	0.00	1000.00
PFC V Dr 25	10.1585	10.1700	10.1700	10.1700	10.1700	4000.00	0.00	4000.00
PFC V Dr 27	10.0619	10.0700	10.0700	10.0700	10.0700	18000.00	0.00	18000.00
PFC V Dr 31	9.7825	9.6800	9.6800	9.6800	9.6800	3700.00	0.00	3700.00
PFC V Dr 32	9.7105	8.9400	8.9400	8.9400	8.9400	3700.00	0.00	3700.00
PFC V Dr 37	10.0600	10.0600	10.0600	10.0600	10.0600	11000.00	0.00	11000.00
Syndicate Bank-II T1 Dr 2	10.2500	10.2500	10.2500	10.2500	10.2500	13000.00	0.00	13000.00
SBI-VI, T1 D3	11.0000	11.0000	11.0000	11.0000	11.0000	6500.00	0.00	6500.00
SBI-VI, T1 D7	11.0000	11.0000	11.0000	11.0000	11.0000	1000.00	0.00	1000.00
HDFC-II, T1 D4	10.4400	10.4400	10.4400	10.4400	10.4400	4000.00	0.00	4000.00
Bonds XXXVIII	9.2000	9.2000	9.2000	9.2000	9.2000	3300.00	0.00	3300.00
NIB Dr 1	0.9699	0.8233	0.8233	0.8233	0.8233	57.59	0.00	57.59
NIB Dr 2	0.9699	0.8233	0.8233	0.8233	0.8233	187.70	0.00	187.70
NIB Dr 5	0.9699	0.8233	0.8233	0.8233	0.8233	3628.87	0.00	3628.87
NIB Dr 6	0.9699	0.8233	0.8233	0.8233	0.8233	2369.77	0.00	2369.77
NIB Dr 7	0.9699	0.8233	0.8233	0.8233	0.8233	5273.10	0.00	5273.10
Bond LIV	8.5200	8.5200	8.5200	8.5200	8.5200	0.00	11000.00	11000.00
TOTAL						**345917.02**	**11000.00**	**356917.02**

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan - Opening	345917.02	356917.02	356917.02	356917.02	356917.02
Cumulative repayments of Loans upto previous year	81758.15	116424.77	150948.54	182397.06	212156.30
Net loan - Opening	264158.87	240492.25	205968.49	174519.96	144760.72
Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/ Decrease due to ACE	11000.00	0.00	0.00	0.00	0.00
Total	275158.87	240492.25	205968.49	174519.96	144760.72
Less: Repayment (s) of Loans during the year	34666.62	34523.76	31448.53	29759.24	25070.81
Net loan - Closing	240492.25	205968.49	174519.96	144760.72	119689.91
Average Net Loan	252325.56	223230.37	190244.22	159640.34	132225.31
Rate of Interest on Loan	9.5506	9.4770	9.4530	9.4356	9.4356
Interest on loan	24098.62	21155.61	17983.70	15062.96	12476.22