CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 421/GT/2020

Coram:

Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: **18th July, 2023**

In the matter of:

Petition for truing-up of tariff of Muzaffarpur Thermal Power Station (MTPS) Stage-II (390 MW) for the period from COD of Unit-I (i.e.18.3.2017) to 31.3.2019.

And

In the matter of:

Kanti Bijlee Utpadan Nigam Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110 003 **.... Petitioner**

Vs

1. Bihar State Power Holding Company Limited,
   Vidyut Bhawan, Bailey Road, Patna – 800 001.

2. North Bihar Power Distribution Company Limited,
   Vidyut Bhawan, Bailey Road, Patna – 800 001

3. South Bihar Power Distribution Company Limited,
   Vidyut Bhawan, Bailey Road Patna – 800 001

4. Jharkhand Bijlee Vitaran Nigam Limited,
   Engineering Building, HEC Township,
   Dhurwa, Ranchi – 834 004

5. GRIDCO Limited,
   Janpath, Bhubaneshwar – 751 022

6. West Bengal State Electricity Distribution Company Limited,
   Vidyut Bhawan, Bidhannagar, Block DJ,
   Sector-II, Salt Lake City, Kolkata – 700 091

7. Power Department,
   Govt. of Sikkim, Kazi Road, Gangtok,
   Sikkim – 737 101

8. Damodar Valley Corporation,
DVC Towers, VIP Road, Kolkata,
West Bengal – 700 054 **…. Respondents**

Parties Present:

Shri Anand K. Ganesan, Advocate, KBUNL
Ms. Swapna Seshadri, Advocate, KBUNL
Ms. Ritu Apurva, Advocate, KBUNL
Ms. Ashabari Basu Thakur, Advocate, KBUNL
Shri Shashwat Kumar, Advocate, BSPHCL
Shri Rahul Chouhan, Advocate, BSPHCL

ORDER

This petition has been filed by the Petitioner, Kanti Bijlee Utpadan Nigam Limited ('KBUNL') for truing up of tariff of Muzaffarpur Thermal Power Station, Stage-II (2 x195 MW) (in short "the generating station") from COD of Unit-I (18.3.2017) to 31.3.2019 in terms of Regulation 8 (1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations"). The generating station with a total capacity of 390 MW comprises of two units of 195 MW each. The dates of commercial operation (COD) of the units of the generating station are as under:

Unit-I	18.3.2017
Unit-II	01.7.2017

2. The Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017 while disallowing time overrun of 670 days for both units, had allowed the time overrun of 948 days and 961 days for Unit-I and Unit-II, respectively and has accordingly, reset the SCOD for computation of IDC and IEDC to 18.5.2015 for Unit-I and 31.8.2015 for Unit-II. Accordingly, vide the said order dated 29.4.2019, the tariff of the generating station from COD of Unit-I (i.e.18.3.2017) to 31.3.2019 was approved. Subsequently, vide corrigendum order dated 11.6.2019, the errors in the computation of IDC as on the COD of the respective units and in the calculation of interest on working capital, was corrected

and the tariff approved vide order dated 29.4.2019 was modified. Aggrieved by Commission's order dated 29.4.2019, the Petitioner filed Review Petition (Petition No. 11/RP/2019) on issues, namely (a) Normative/Notional IDC capitalisation (b) Correction of the Station Heat Rate. The Commission vide its order dated 27.1.2020, had disposed of issue (a)-by granting liberty to the parties to raise this issue, at the time of truing up of tariff for 2014-19. In respect of issue (b), the same was allowed and the order dated 29.4.2019 pertaining to SHR for the generating station for 2014-19 was corrected upto two decimal places as 2375.29 kCal/kWh. However, the revision of tariff on this count was directed to be undertaken at the time of truing-up of tariff.

3. The capital cost and the annual fixed charges allowed vide order dated 29.4.2019 read with the corrigendum order dated 11.6.2019 in Petition No. 74/GT/2017 are as under:

Capital Cost allowed

(Rs. in lakh)

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Opening capital cost	183029.39	183355.69	300216.39	324134.55
Add: Additional capital expenditure	326.30	2675.30	23918.16	74528.28
Closing capital cost	183355.69	186030.99	324134.55	398662.83

Annual Fixed Charges allowed

(Rs. in lakh)

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Return on Equity	323.91	2122.66	10542.60	16258.40
Interest on Loan	476.66	3093.84	15495.01	22646.82
Depreciation	326.91	2142.34	11163.25	17215.54
Interest on Working Capital	84.87	564.30	3193.52	4426.59
O&M Expenses	201.95	1395.29	8402.42	11898.90
Total	**1414.29**	**9318.43**	**48796.79**	**72446.25**

Present petition

4. In terms of Regulation 8 (1) of the 2014 Tariff Regulations, the Petitioner has filed present petition for truing up of tariff of the generating station for the period 2014-19 and had claimed the following capital cost and the annual fixed charges:

Capital Cost claimed

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Opening capital cost	186884.27	187210.57	304071.27	308185.29
Add: Addition during the year / period	0.00	0.00	1087.25	7017.01
Less: Decapitalization during the year / period	0.00	0.00	0.00	0.00
Less: Reversal during the year / period	0.00	0.00	0.00	0.00
Add: Discharges during the year /period	326.30	2675.30	3026.77	15365.23
Closing capital cost	**187210.57**	**189885.87**	**308185.29**	**330567.52**
Average capital cost	187047.42	188548.22	306128.28	319376.41

Annual Fixed Charges claimed

(Rs.in lakh)

	2016-17		2017-18	2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Depreciation	8702.38	8772.21	14582.73	15220.84
Interest on Loan	12688.62	12668.31	19917.21	17580.98
Return on Equity	8622.49	8691.67	13775.03	18930.24
Interest on Working Capital	2289.31	2355.06	4337.43	4481.34
O&M Expenses	5328.39	5725.22	11321.72	12066.96
Total (annualised basis)	**37631.19**	**38212.48**	**63934.12**	**68280.36**

5. The Respondents BSPHCL, North Bihar Power Distribution Company Ltd (NBPDCL) and South Bihar Power Distribution Company Ltd (SBPDCL) had filed their replies, vide common affidavit dated 30.7.2021. The Petitioner vide affidavit dated 11.8.2021 has filed certain additional information, after serving copy on the Respondents and has also vide affidavit dated 14.7.2022, filed its rejoinder to the reply of the Respondents. Subsequently, the petition was heard along with Petition No.

446/GT/2020 (tariff of the generating station for the period 2019-24), through virtual hearing on 28.7.2022, and the Commission, after directing the Petitioner to furnish certain additional information, reserved its order in both the petitions. The Petitioner vide affidavit dated 14.9.2022 has filed the Additional information after serving copy on the Respondents. Based on the submissions of the parties and documents available on record, and after prudence check, we proceed for truing up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

Capital Cost

6. Regulations 9(1) and 9(2) of the 2014 Tariff Regulations provide for capital cost and the components to be considered for capital cost of new projects. Regulation 9(1) and 9(2) of 2014 Tariff Regulations provides as under:

> *"(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."*

7. As stated, the Commission vide its order dated 29.4.2019 read with corrigendum order dated 11.6.2019 in Petition No. 74/GT/2017, had approved the tariff of the generating station, for the period from COD of Unit-I to 31.3.2019, considering the capital cost of Rs.183029.39 lakh and Rs.300216.39 lakh as on COD of Unit-I and Unit-

II, respectively. The break-up of capital cost approved as on the COD of Units-I and II are as under:

(Rs. in lakh)

	As on COD of Unit-I (i.e.18.3.2017)	As on COD of Unit-II (i.e. 1.7.2017)
Capital cost claimed on cash basis (excluding IDC/ Normative IDC)	151268.68	247666.74
Less: IEDC disallowed due to time overrun	2681.91	4047.51
Add: IDC allowed	30359.54	52470.20
Add: Normative IDC allowed	4083.07	4126.95
Capital cost allowed (on cash basis)	**183029.39**	**300216.39**

8. The capital cost claimed by the Petitioner as on COD of Unit-I is Rs.186884.27 lakh and as on COD of Unit-II is Rs.304071.27 lakh. The break-up of capital cost as on COD of Units-I and II are as under:

(Rs. in lakh)

	As on COD of Unit-I (i.e.18.3.2017)	As on COD of Unit-II (i.e. 1.7.2017)
Capital cost allowed on cash basis in order dated 29.4.2019 read with corrigendum order dated 11.6.2019 in Petition No. 74/GT/2017	183029.39	300216.39
Add: Normative IDC for the period prior to first date of drawl of loan (i.e. from quarter ending 30.6.2010 to 30.9.2011)	3854.88	3854.88
Capital cost claimed (on cash basis)	**186884.27**	**304071.27**

9. As regard the Petitioner's claim of Rs.183029.39 lakh and Rs.300216.39 lakh as on COD of Unit-I and Unit-II, respectively, we notice that in order dated 29.4.2019 read with corrigendum order dated 11.6.2019 in Petition No. 74/GT/2017, the claims were allowed based on the Auditor certified capital cost and after due consideration of the impact of the disallowed time overrun towards IDC and IEDC. Accordingly, we allow the same for the purpose of tariff.

10. The Commission order dated 29.4.2019 in Petition No. 74/GT/2017 had disallowed the Petitioner's claim towards normative IDC for the period prior to first date of drawl of actual loan (i.e. from quarter ending 30.6.2010 to 30.9.2011) and has observed as under:

“58. It is noticed that the rate of interest claimed by the Petitioner for calculation of normative IDC for the period prior to the drawl of actual loan is not in accordance with the above regulations. In a similar case, the Commission vide its order dated 6.5.2015 in petition No. 229/GT/2010 has decided as under: -

> *“45. (a) The Petitioner has claimed notional IDC from the first quarter of 2007-08 and the first drawl of the actual loan was made in the fourth quarter (14.2.2008) of 2007-08. The Petitioner has worked out the notional IDC for first three quarters of 2007-08 by considering the rate of interest @ 10.75% per annum, applicable to the first drawl of loan. But, there was no drawl of actual loan for the generating station as well as the Petitioner company as a whole before 14.2.2008. Hence, there was no weighted average rate of interest available to work out the normative IDC before actual drawl of the loan (14.2.2008). Therefore, no IDC has been allowed before the actual drawl of the loan.”*

59. In line with the above decision, the normative IDC for the period prior to 1st drawl of actual loan has not been allowed in the present case of the Petitioner. For the period after 1st drawl of the actual loan till the reset SCOD of the units, the normative IDC has been calculated and allowed based on the rate of interest on the actual loan and equity of more than 30% of the actual cash expenditure deployed. However, the same is subject to revision at the time of truing-up exercise based on the audited balance sheets with all schedules/ notes for every financial year since first fund infusion etc, to be furnished by the Petitioner. Accordingly, the normative IDC of ₹4083.07 lakh for Unit-I and ₹4126.95 lakh for Unit-II is allowed.”

11. As regards the Petitioner’s claim towards normative IDC for the period prior to the first date of drawl of actual loan (i.e. from quarter ending 30.6.2010 to 30.9.2011), it is observed that the Commission vide its order dated 27.1.2020 in Review Petition no. 11/RP/2019, granted liberty to the Petitioner to raise the issue of capitalisation of normative IDC prior to drawl of actual loan (from quarter ending 30.6.2010 to 30.9.2011). Accordingly, the Petitioner has claimed an amount of Rs.3854.88 lakh, on COD of both the units, on account of normative IDC claimed for the period prior to drawl of actual loan. For the period prior to drawl of actual loan, the Petitioner has applied the rate of 13.808% p.a. as applicable for MTPS Stage-I for this period.

12. We have examined the matter. The Petitioner has claimed normative IDC of Rs.3854.88 lakh, as on the COD of both units, for the period prior to the drawl of actual loan (i.e. from quarter ending 30.6.2010 to 30.9.2011) by applying the rate of 13.808% p.a. as applicable for MTPS Stage-I, during this period.

13. In this regard, Regulation 9(2)(b) of the 2014 Tariff Regulations is applicable which provides as under:

“(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 actual equity is less than 30% of the funds deployed;

14. Further, Regulation 11(A)(1) of the 2014 Tariff Regulations provides as under:

“(A) Interest during construction (IDC):
(1) Interest during construction shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds upto SCOD.”

15. The aforesaid Regulations clearly provide that IDC/ Normative IDC shall be computed from the date of infusion of debt fund for the generating station. The Petitioner has sought to substantiate its claim for normative IDC prior to infusion of actual debt by referring to and seeking applicability of the interest rate of 13.808 % p.a., as applicable in the case of MTPS-I. In this regard, 2014 Tariff Regulations do not provide for consideration of any other rate of interest prior to the date of infusion of debt fund for computation of IDC, however, the Petitioner, in Petition No. 11/RP/2019, has also referred to the Appellate Tribunal’s Judgment dated 3.10.2019 in Appeal No. 231 of 2017 (Powerlinks Transmission Limited v. CERC) in respect of its claim for admissibility of Normative IDC before the date of infusion of debt fund. Hon’ble Tribunal in clause (ix) and (x) of paragraph 8 of the aforesaid judgment observed as under:

“*8. Findings in this case are as under: -*
xxx
xxx
ix) The Central Commission should have taken into consideration the aspect that whatever be the types of funds it is never free of cost. There is always a cost of funding. The argument that no actual loan for additional capital expenditure was taken and therefore it is not admissible for any normative IDC is wrong. It is the commercial decision of the Appellant whether to borrow the money from the market for the purpose of additional capitalisation or use its internal accruals. In either case, the capitalisation deserves to be given the Interest During Construction. For the simple reasons that if the internal accruals were not to be used as additional capital than it would have been invested in the market in any interest earning instrument. Additional capitalisation is therefore entitled to be compensated in terms of normative IDC. The Central Commission should have considered this aspect that no funds are free funds.

x) The Impugned Order is not in line with the Central Commission’s views expressed in the Statement of Reasons notified by it and is also not in line with the *various provisions of the Tariff Regulations, 2014 which provides that this additional capitalisation funded through the internal accruals of the Appellant to be treated as normative loan. As such we do not agree with the decision of the Central Commission."*

16. Though the above judgment of the Tribunal pertains to additional capital expenditure incurred after COD of the project, however, it appears that the underlying observation of the Tribunal that '*funds are never free of cost'* equally applies to funds deployed during the period prior to COD also. In view of above and based on the liberty granted to the Petitioner vide order dated 27.1.2020 in Petition No. 11/RP/2019, we are inclined to allow normative IDC to the Petitioner during the period prior to date of drawl of actual loan.

17. As stated above, the Petitioner has claimed normative IDC for the period prior to the drawl of actual loan (i.e. from quarter ending 30.6.2010 to 30.9.2011) by applying the rate of 13.808% p.a. as applicable for MTPS Stage-I. We are of the view that Normative IDC is an opportunity cost (without actual outflow) and there will be subjectivity in applying Interest rates of other stations which may vary from Petitioner to Petitioner. Hence, weighted average SBI base rate as applicable for the relevant Financial Year is to be considered for the purpose of calculating normative IDC for the period prior to date of actual drawl which will be in the interest of both the beneficiaries and the Petitioner.

18. In view of the above, normative IDC of Rs.2102.73 lakh is allowed, as on COD of both the units, for the period prior to the drawl of actual loan (i.e. from quarter ending 30.6.2010 to 30.9.2011)

<u>Initial Spares</u>

19. Regulation 13 of the 2014 Tariff Regulations provides as under:

*"**13. Initial Spares:** Initial spares shall be capitalised as a percentage of the Plant and*

Machinery cost upto cut-off date, subject to following ceiling norms:
(a) Coal-based / lignite-fired thermal generating stations - 4.0%
(b) Gas Turbine / Combined Cycle thermal generating stations - 4.0%
xxx
Provided that:
i. where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:
xxx
iv. for the purpose of computing of initial the cost spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break-up of head wise IDC & IEDC in its tariff application."

20. The Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017 had allowed initial spares for Rs.6365.09 lakh, which is equal to 1.88% of the cost of Plant & Machinery of Rs.339302.30 lakh, as on the COD of the generating station. The cut-off date of the generating station is 31.3.2020. The Petitioner vide affidavit dated 14.9.2022 has submitted that it has capitalised initial spares for Rs.6365.09 lakh upto the COD of the generating station, Rs.407.98 lakh for the period from COD of the generating station to 31.3.2018 and Rs.173.47 lakh in 2018-19. The Petitioner has also submitted that it has projected to capitalise initial spares for Rs.5176.28 lakh for the period from 1.4.2019 till the cut-off date of the generating station (31.3.2020) and Rs.3112 lakh after the cut-off date of the generating station. Thus, the initial spares capitalised upto 31.3.2019 is Rs.6946.54 lakh which constitute 2.05% of the Plant & Machinery cost of Rs.339302.30 lakh, as considered as on the COD of the generating station. This amount is well within the ceiling norm of 4% as prescribed in the above regulations. Accordingly, the initial spares for Rs.6365.09 lakh, as on COD of the generating station, Rs.407.98 lakh for the period from COD of the generating station to 31.3.2018 and Rs.173.47 lakh in 2018-19 is allowed, after prudence check, for the purpose of tariff.

Infirm Power

21. The Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017 had

allowed the adjustment of Rs.319.18 lakh and Rs.672.41 lakh from the Pre-commissioning expenses, on account of sale of infirm power upto COD of Units-I and II respectively, and had directed the Petitioner to furnish the Auditor certificate, at the time of truing up of tariff. In compliance thereof, the Petitioner vide its affidavit dated 11.8.2021 has furnished the Auditor certified statement in respect of the infirm power adjusted from the pre-commissioning expenses upto the COD of the generating station, which is the same as considered in order dated 29.4.2019 in Petition No. 74/GT/2017.

Additional Capital Expenditure

22. Regulations 14 of the 2014 Tariff Regulations provides as under:

"14. Additional Capitalization and De-capitalization:

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

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

v) Change in law or compliance of any existing law:

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

(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work 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) Deferred works relating to ash pond or ash handling system in the original scope of work; and

(iv) 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.

(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 Modernization (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.

(4) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-

capitalisation shall be deducted from the vale of gross fixed asset and corresponding loan as well as equity shall be deducted from the outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."

23. The Commission vide its order dated 29.4.2019 read with corrigendum order dated 11.6.2019 in Petition No. 74/GT/2019 had allowed the additional capital expenditure as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Projected additional capital expenditure	0.00	0.00	20018.77	63105.87
Discharges of liabilities	326.30	2675.30	3899.39	11422.41
Total	**326.30**	**2675.30**	**23918.16**	**74528.28**

24. The additional capital expenditure claimed by the Petitioner for the period from COD of Unit-I till 31.3.2019, based on Auditor certified statement, is as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Closing Gross Block as per audited books *	279054.22	# 415800.27	420777.52	440807.01
Less: Opening Gross Block as per audited books *	278916.51	279054.22	415800.27	420777.52
Additional capital expenditure as per audited books *	**137.71**	**136746.05**	**4977.24**	**20029.48**
Less: Additional capital expenditure pertaining to Stage-I	137.71	(-) 14.61	516.02	3394.69
Additional capital expenditure for the generating station	**0.00**	**136760.66**	**4461.22**	**16634.79**
Less: IND AS Adjustment	0.00	471.60	299.21	0.00
Additional capital expenditure as per IGAAP for the generating station	**0.00**	**136289.06**	**4162.01**	**16634.79**
Less: Additions considered as on COD of Unit-II	0.00	136289.06	0.00	0.00
Additional capital expenditure claimed for the generating station (on accrual basis)	**0.00**	**0.00**	**4162.01**	**16634.79**
Less: Un-discharged liabilities included above	0.00	0.00	3074.76	9617.78
Net Additional capital expenditure claimed for the generating station (on cash basis)	**0.00**	**0.00**	**1087.25**	**7017.01**
Add: Discharges of liabilities	326.30	2675.30	3026.77	15365.23

Net Additional capital expenditure claimed including discharges for the generating station (on cash basis)	326.30	2675.30	4114.02	22382.24

* *As per IND AS; # As on COD of Unit-II.*

25. The Petitioner has claimed additional capital expenditure including discharge of liabilities for the period from COD of Unit-I (i.e. 18.3.2017) to 31.3.2019, in terms of sub-clauses (i), (ii) and (iii) of Regulation 14(1) of the 2014 Tariff Regulations, in respect of works within the original scope of works. The details of additional capital expenditure claimed in 2017-18 (i.e. from 1.7.2017 to 31.3.2018) and 2018-19 are as under:

Details of additional capital expenditure claimed in 2017-18 (i.e. from 1.7.2017 to 31.3.2018)

Sl. No.	Head of Work /Equipment	Additional Capital Expenditure claimed (Actual / Projected)						Regulation
		Accrual basis	Ind AS Adj.	Accrual basis as per IGAAP	Un-discharged liability included in col. 5	Cash basis	IDC included in col. 5	
1	2	3	4	5=3+4	6	7=5-6	8	9
A1	**Claimed (Works under Original Scope)**							
1	Land - Ash dyke	43.07	0.00	43.07	43.07	0.00	0.00	14(1)(ii)
2	Steam & Turbine Generator Island	393.15	(-) 29.33	363.81	363.81	0.00	0.00	
3	CW system	0.00	0.00	0.00	0.00	0.00	0.00	
4	DM water Plant	0.00	0.00	0.00	0.00	0.00	0.00	
5	Cooling Towers	0.00	0.00	0.00	0.00	0.00	0.00	
6	Clarification plant/PT plant	6.16	(-) 0.46	5.70	5.70	0.00	0.00	
7	Ash Handling System	3492.55	(-) 260.60	3231.95	2552.84	679.11	691.81	
8	Coal Handling Plant	0.00	0.00	0.00	0.00	0.00	0.00	
9	Air Conditioning System	0.00	0.00	0.00	0.00	0.00	0.00	
10	Ventilation System	0.00	0.00	0.00	0.00	0.00	0.00	
11	Firefighting System	0.00	0.00	0.00	0.00	0.00	0.00	
12	HP/LP Piping	47.70	(-) 3.56	44.14	44.14	0.00	0.00	
13	Switchyard Package	29.14	(-) 2.17	26.96	26.96	0.00	0.00	
14	LT Transformer Package	0.00	0.00	0.00	0.00	0.00	0.00	
15	HT Switchgear Package	1.08	(-) 0.08	1.00	1.00	0.00	0.00	
16	LT Switchgear Package	0.00	0.00	0.00	0.00	0.00	0.00	
17	Construction power package	0.00	0.00	0.00	0.00	0.00	0.00	
18	BOP Others – Networking	0.16	0.00	0.16	0.00	0.16	0.00	
19	C & I Package	36.86	(-) 2.75	34.11	34.11	0.00	0.00	
20	Initial spares	407.98	0.00	407.98	0.00	407.98	0.00	14(1)(iii)
21	Main Plant Civil Package	0.00	0.00	0.00	0.00	0.00	0.00	14(1)(ii)

Sl. No.	Head of Work /Equipment	Additional Capital Expenditure claimed (Actual / Projected)						Regulation
		Accrual basis	Ind AS Adj.	Accrual basis as per IGAAP	Un-discharged liability included in col. 5	Cash basis	IDC included in col. 5	
22	DM water Plant	3.37	(-) 0.25	3.12	3.12	0.00	0.00	
23	Operator's Training	0.00	0.00	0.00	0.00	0.00	0.00	
24	Establishment	0.00	0.00	0.00	0.00	0.00	0.00	
	Sub-total	**4461.22**	**(-) 299.21**	**4162.01**	**3074.76**	**1087.25**	**691.81**	
A2	Discharge of liabilities	0.00	0.00	0.00	0.00	3026.77	0.00	14(1)(i)
	Total Additional capital expenditure claimed on cash basis including liability discharge	**4461.22**	**(-) 299.21**	**4162.01**	**3074.76**	**4114.02**	**691.81**	

Details of the additional capital expenditure claimed in 2018-19

Sl. No.	Head of Work /Equipment	Additional Capital Expenditure claimed (Actual / Projected)						Regulation
		Accrual basis	Ind AS Adj.	Accrual basis as per IGAAP	Un-discharged Liability included in col. 5	Cash basis	IDC included in col. 5	
1	2	3	4	5=3+4	6	7=5-6	8	9
A1	**Claimed (Works under Original Scope)**							
1	Land - Ash dyke	4655.42	0.00	4655.42	776.74	3878.68	0.00	**14(1)(ii)**
2	Steam & Turbine Generator Island	1179.73	0.00	1179.73	1179.73	0.00	0.00	
3	CW system	26.33	0.00	26.33	26.33	0.00	0.00	
4	DM water Plant	42.11	0.00	42.11	42.11	0.00	0.00	
5	Cooling Towers	87.34	0.00	87.34	87.34	0.00	0.00	
6	Clarification plant/PT plant	83.98	0.00	83.98	83.98	0.00	0.00	
7	Ash Handling System	0.00	0.00	0.00	0.00	0.00	0.00	
8	Ash Water Recirculation System	0.00	0.00	0.00	0.00	0.00	0.00	
9	Coal Handling Plant	0.00	0.00	0.00	0.00	0.00	0.00	
10	MGR	0.00	0.00	0.00	0.00	0.00	0.00	
11	Air Conditioning System	11.64	0.00	11.64	11.64	0.00	0.00	
12	Ventilation System	32.30	0.00	32.30	32.30	0.00	0.00	
13	Firefighting System	148.01	0.00	148.01	148.01	0.00	0.00	
14	HP/LP Piping	120.86	0.00	120.86	120.86	0.00	0.00	
15	Workshop	0.00	0.00	0.00	0.00	0.00	0.00	
16	Switchyard Package	60.93	0.00	60.93	60.93	0.00	0.00	
17	Generator Bus Duct	3.88	0.00	3.88	3.88	0.00	0.00	
18	Power Transformers Package	167.22	0.00	167.22	167.22	0.00	0.00	
19	LT Transformer Package	1.21	0.00	1.21	1.21	0.00	0.00	
20	HT Switchgear Package	0.00	0.00	0.00	0.00	0.00	0.00	
21	LT Switchgear Package	0.02	0.00	0.02	0.02	0.00	0.00	

Sl. No.	Head of Work /Equipment	Additional Capital Expenditure claimed (Actual / Projected)						Regulation
		Accrual basis	Ind AS Adj.	Accrual basis as per IGAAP	Un-discharged Liability included in col. 5	Cash basis	IDC included in col. 5	
22	Cables, Cable facilities & grounding	141.32	0.00	141.32	141.32	0.00	0.00	
23	Main Electrical Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
24	ESP Package	84.56	0.00	84.56	84.56	0.00	0.00	
25	Construction power package	0.00	0.00	0.00	0.00	0.00	0.00	
26	C & I Package	84.94	0.00	84.94	84.94	0.00	0.00	
27	Initial spares	173.47	0.00	173.47	0.00	173.47	0.00	**14(1)(iii)**
28	Main Plant Civil Package	1174.21	0.00	1174.21	1174.21	0.00	0.00	**14(1)(ii)**
29	Civil Infrastructure Package	0.00	0.00	0.00	0.00	0.00	0.00	
30	CW system-Makeup water civil	7939.88	0.00	7939.88	5074.62	2865.26	1527.71	
31	DM water Plant	173.89	0.00	173.89	173.89	0.00	0.00	
32	Chimney	141.94	0.00	141.94	141.94	0.00	0.00	
33	Ash disposal area development/Ash Dyke	0.00	0.00	0.00	0.00	0.00	0.00	
34	Township & Colony	0.00	0.00	0.00	0.00	0.00	0.00	
35	Tools & Plant	0.00	0.00	0.00	0.00	0.00	0.00	
36	Establishment	0.00	0.00	0.00	0.00	0.00	0.00	
37	Design & Engineering/Technical Consultancy	0.00	0.00	0.00	0.00	0.00	0.00	
38	MBOA	99.59	0.00	99.59	0.00	99.59	0.00	
	Subtotal	**16634.79**	**0.00**	**16634.79**	**9617.78**	**7017.01**	**1527.71**	
A2	Discharge of liabilities	0.00	0.00	0.00	0.00	15365.23	0.00	**14(1)(ii)**
	Total Additional capital expenditure claimed on cash basis including liability discharge	**16634.79**	**0.00**	**16634.79**	**9617.78**	**22382.24**	**1527.71**	

26. In justification of additional capital expenditure claimed, the Petitioner has submitted that '*The works are within the original scope of work and allowed by the Commission vide its order dated 29.4.2019 read with corrigendum order dated 11.6.2019 (in Petition No.74/GT/2017) and have been capitalised prior to the cut-off date of the generating station (31.3.2020). Balance works allowed are under progress and are expected to be capitalised within the cut-off date'*. With regard to the reasonableness of the capital cost of the project, the Commission vide its order dated 29.4.2019 in Petition No. 74/GT/2017, had observed that the cost of the generating

station is higher than other generating stations. The relevant portion of the order is extracted below:

> ***"Reasonableness of Capital Cost***
>
> *71. The capital cost (excluding IDC, FC & WCM) envisaged at the time of original Investment Approval was ₹3054.61 crore, which works out to be ₹7.83 crore/ MW. The Board of the petitioner company, while approving the Investment Approval for ₹3344.68 crore had sought clarification from NTPC for such a high cost and it was clarified that in view of smaller size of the units, project being non-mega and due to additional provisions for Coal Handling Plant, the cost of the project was higher. Further, due to the reasons of smaller size of units etc., the ratio of main plant (TG & SG) and Balance of Plant (BOP) cost was higher in comparison to other projects. It was also clarified that due to de-rating of unit size to 195 MW in view of Airports Authority of India's restriction on stack height, non-mega status and considering the fact that facilities like Intake Pump House Building, Railway Siding, Coal Unloading & Handing System etc. were essentially required, the total revised cost and cost/MW of this project was relatively higher when compared to mega status projects and with higher capacity units.*
>
> *72. The hard cost of the project till the cut-off date as furnished by the Petitioner in Form-5B is ₹3794.17 crore which works out to be ₹9.73 crore/MW. This is higher than the cost envisaged at the time of original investment approval of ₹7.83 crore/MW. The Petitioner, in response to directions of the Commission vide ROP of hearing dated 11.10.2018, has furnished the following reasons towards increase in hard cost:*
>
> *i) Land: Increase of ₹196 crore due to revision in land rate after the new Land Acquisition Act.*
>
> *ii) BTG Package: Increase of ₹235 crore due to change in estimate on account of change in taxes and duties, price variation in the intervening period.*
>
> *iii) Ash Handling System: Increase of ₹22.8 crore due to change in pipe length from 30 km to 60 km.*
>
> *iv) Coal Handling Plant: Increase of ₹90.5 crore due to change in Wagon Tippler design as per guideline by RDSO and delay in award.*
>
> *v) Mechanical system of storm water drain: Increase of ₹31 crore due to mechanical system not included in any of the packages in original Investment Approval.*
>
> *vi) Ash dyke: Increase of ₹66 crore due to non-availability of land as the lead distance of Ash dyke was increased. The increase in distance of piping lead to increase in cost.*
>
> *vii) Initial spares: Increase of ₹20 crore for spares as it was not considered in the original estimate but was included in the revised cost.*
>
> *73. The Commission vide its order dated 4.6.2012 has specified the "Benchmark capital cost (Hard cost) for Thermal Power stations with coal as fuel in respect of power projects of 500 MW capacity and above and not for projects of 200/250 MW capacity. Further, no contemporary project of 195/200 MW capacity has been commissioned during this period. It is noticed from the Board Resolution dated 6.3.2010 that the high cost of the project was a concern for the Board of Directors of the petitioner company. The Board, only after being satisfied of the reasons for high cost of the project, had approved the project cost. In this background, the estimated completion cost and the actual capital cost as on COD of the project is considered reasonable and has accordingly been considered for the purpose of tariff."*

27. The COD of the generating station is 1.7.2017 and therefore, the cut-off date of the generating station, in terms of the 2014 Tarif Regulations, is 31.3.2020. Accordingly,

the additional capitalisation claimed is after COD and prior to cut-off date, but the same is over and above the capital cost allowed and the liabilities recognized by the Commission, after assessing its reasonableness in order dated 29.4.2019. In this regard, it is also noticed that the Commission vide its order dated 29.4.2019, had directed the Petitioner to furnish the asset-wise details of the actual expenditure incurred along with the liabilities discharged within the original scope of work, duly certified by auditor, at the time of revision of tariff. In response, the Petitioner has furnished Form-9A (additional capitalisation) and Form-18 (discharge of liabilities) duly certified by auditor. In order to assess the reasonableness of these additional claims, the information furnished by the Petitioner has been examined and it is noted that the Petitioner has furnished the list of assets and amount associated thereof, however, individual item wise justification and details thereof were not provided, particularly, over and above already allowed cost and recognised liabilities by order dated 29.4.2019. In this regard, it is also noted that the subject claims include Initial Spares, MBOA and various items. The initial spares and MBOA were already deliberated under relevant paragraphs of the order. It is noted that there are some inconsistencies such as 'BoP Other – Networking' is shown as separate item in 2017-18, however, the same is shown as part of MBOA in summary of additional capital. Further, it is noted that the balance claims of the petitioner are pertaining to main plant as well as BoP and the same are categorized as (a) Additional capitalisation claimed on accrual basis which includes cash basis as well as creation of liabilities and (b) Additional capitalisation claimed on accrual basis, which is exclusively creation of additional liabilities.

28. Considering the above and reasonableness of capital cost of the project, after prudence check, the additional capital expenditure claimed on cash basis during the period from 1.7.2017 to 31.3.2018 and in 2018-19 are **allowed** but the claims made for

creation of liabilities is not allowed at this stage. However, the Petitioner is granted liberty to approach the Commission for the balance liabilities created as and when discharged, along with detailed justification as well as supporting documents for each claim. Further, the discharge of liabilities during the period from 1.7.2017 to 31.3.2018 and in 2018-19 as claimed by the petitioner are allowed. Accordingly, the additional capital expenditure allowed for the period 2016-19 (18.3.2017 to 31.3.2019) is as under:

(Rs. in lakh)

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Land – Ash Dyke	0.00	0.00	0.00	3878.68
Ash Handling System	0.00	0.00	679.11	0.00
CW System – Make Up water civil	0.00	0.00	0.00	2865.27
Initial spares	0.00	0.00	407.98	173.47
MBOA	0.00	0.00	0.16	99.59
Sub-total	**0.00**	**0.00**	**1087.25**	**7017.01**
Add: Discharge of liabilities	326.30	2675.30	3026.77	15365.23
Net additional capital expenditure allowed	**326.30**	**2675.30**	**4114.02**	**22382.24**

29. Further, the flow of un-discharged liability, corresponding to the assets/works, allowed during the period 2016-19 is as under:

(Rs. in lakh)

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Opening liabilities	18137.59	17811.29	* 20799.54	20847.54
Add: Liabilities added during the year	0.00	0.00	3074.76	9617.78
Less: Discharge of liabilities	326.30	2675.30	3026.77	15365.23
Less: Reversal of liabilities	0.00	0.00	0.00	0.00
Closing liabilities	**17811.29**	**15135.99**	**20847.54**	**15100.09**
Less: Liabilities as on 31.3.2019 corresponding to Add-cap after COD, to be allowed, on prudence check, as and when discharged in subsequent years based on reasonableness of capital cost and furnishing of justification / documents as stated aforesaid	-	-	-	4238.75
Net closing liabilities considered as allowed as on 31.3.2019	**-**	**-**	**-**	**10861.34**

* *including liability addition of Rs.5663.56 lakh towards additional capitalisation as on COD of Unit-II.*

Capital cost allowed for the period 2016-19

30. Based on above, the capital cost allowed for the purpose of tariff is as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Opening capital cost	185132.12	185458.42	302319.12	306433.14
Add: Additional capital expenditure	326.30	2675.30	4114.02	22382.24
Closing capital cost	**185458.42**	**188133.72**	**306433.14**	**328815.38**
Average capital cost	185295.27	186796.07	304376.13	317624.26

Debt-Equity Ratio

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

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

Provided that:
(i) where equity actually deployed is less than 30% of the capital cost actual equity shall be considered for determination of tariff:
(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-equity ratio.

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

(2) The generating Company or the transmission licensee shall submit the resolution of 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 ratio 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.”

32. Considering the details of cumulative cash expenditure and debt, as furnished in respect of the generating station, the allowable debt: equity ratio for the purpose of tariff works out to 70:30, and the same has been considered. Accordingly, the details of debt-equity ratio in respect of the generating station, as on COD of Unit-I and Unit-II, and as on 31.3.2019, are as under:

	Capital cost as on 18.3.2017 (i.e. COD of Unit-I) ***(Rs. in lakh)***	**(%)**	**Capital cost as on 1.7.2017 (i.e. COD of Unit-II)** ***(Rs. in lakh)***	**(%)**	**Net additional capital expenditure from COD of Unit-II to 31.32019** ***(Rs. in lakh)***	**(%)**	**Total cost as on 31.3.2019** ***(Rs. in lakh)***	**(%)**
Debt	129592.49	70.00%	211623.39	70.00%	18547.38	70.00%	230170.76	70.00%
Equity	55539.64	30.00%	90695.74	30.00%	7948.88	30.00%	98644.61	30.00%
Total	**185132.12**	**100.00%**	**302319.12**	**100.00%**	**26496.25**	**100.00%**	**328815.38**	**100.00%**

Return on Equity

33. Regulation 24 of the 2014 Tariff Regulation 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 kilometer."*

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

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

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

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

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

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under- recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis."

35. The Petitioner has claimed tariff, considering the rate of Return on Equity (ROE) of 15.500% during the period 2016-18 and 19.7575% in 2018-19. The Petitioner has arrived at these rates after grossing up base rate of return on equity of 15.50% with 'nil' tax rate during the period 2016-18 (the tax liability as applicable to the generating station during this period being 'nil') and MAT rate of 21.5488% in 2018-19. However, after rectifying the rounding off errors, the rate of ROE to be considered for the purpose of tariff works out to 15.500% for the period 2016-18 and 19.758% for 2018-19, the same

has been considered. Accordingly, ROE has been worked out as under:

(Rs. in lakh)

		2016-17	2017-18		2018-19
		COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Notional Equity - Opening	A	55539.64	55637.53	90695.74	91929.94
Addition of Equity due to additional capital expenditure	B	97.89	802.59	1234.20	6714.67
Normative Equity - Closing	C=A+B	55637.53	56440.12	91929.94	98644.61
Average Normative Equity	D=(A+C)/2	55588.58	56038.82	91312.84	95287.28
Return on Equity (Base Rate)	E	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	F	0.000%	0.000%	0.000%	21.549%
Rate of Return on Equity (Pre-tax)	G=E/(1-F)	15.500%	15.500%	15.500%	19.758%
Return on Equity (Pre-tax) - (annualized)	**H=DxG**	**8616.23**	**8686.02**	**14153.49**	**18826.86**

Interest on loan

36. 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 Decapitalization 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 up to 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 refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the

generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

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

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

37. Interest on loan has been worked out as under:

(i) The gross normative loan amounting to Rs.129592.49 lakh and Rs.211623.39 lakh has been considered as on COD of Unit-I and II, respectively;

(ii) Cumulative repayment as on COD of Unit-I has been considered as nil;

(iii) The weighted average rate of interest (WAROI) on loan as claimed by the Petitioner has been considered, after prudence check;

(iv) Addition to normative loan on account of additional capital expenditure approved above has been considered;

(v) Depreciation allowed has been considered as repayment of normative loan during the respective years of the period 2016-19.

38. Necessary calculation of interest of loan is as under:

(Rs. in lakh)

		2016-17	**2017-18**		**2018-19**
		COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Gross opening loan	A	129592.49	129820.90	211623.39	214503.20
Cumulative repayment of loan upto previous year / period	B	0.00	330.01	2492.47	13366.39
Net Loan - Opening	C=A-B	129592.49	129490.88	209130.92	201136.80
Addition due to additional capital expenditure	D	228.41	1872.71	2879.81	15667.57
Repayment of loan during the year/period	E	330.01	2162.46	10873.92	15119.38
Net Loan - Closing	F=C+D-E	129490.88	129201.14	201136.80	201684.99
Average Loan	G=(C+F)/2	129541.68	129346.01	205133.86	201410.90
Weighted Average Rate of Interest on Loan	H	9.6674%	9.6671%	9.5178%	8.6826%
Interest on Loan (annualized)	I=GxH	**12523.34**	**12504.03**	**19524.17**	**17487.61**

Depreciation

39. 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 up to 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."

40. The Petitioner has claimed tariff considering the weighted average rate of depreciation (WAROD) of 4.6525% for the period from COD of Unit-I to COD of Unit-II, 4.7636% for the period from COD of Unit-II till 31.32018 and 4.7658% in 2018-19. Considering the rates of depreciation, as specified in Appendix-II to the 2014 Tariff Regulations, the WAROD considered for the purpose of tariff works out to 4.6433% for the period from COD of Unit-I to COD of Unit-II, 4.7590% for the period from COD of Unit-II to 31.32018 and 4.7601% for 2018-19, and the same has been considered. Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Average capital cost (A)	185295.27	186796.07	304376.13	317624.26
Value of freehold land included above (B)	17132.25	17132.25	17132.25	19071.59
Depreciable Value [C = (A-B) x 90%]	151346.72	152697.44	258519.49	268697.40
Remaining Aggregate Depreciable value at the beginning of the year (D = C – 'J' of previous year)	151346.72	152367.43	256027.02	255331.01
Balance useful life at the beginning of the year (E)	25.00	25.00	25.00	24.25
Weighted average rate of depreciation (F)	4.6433%	4.6433%	4.7590%	4.7601%
Depreciation for the year/ period (G = A x F x No. of days during the period / No. of days during the year)	330.01	2162.46	10873.92	15119.38
Depreciation during the year (H = A x F) (Annualized)	**8603.90**	**8673.59**	**14485.34**	**15119.38**
Cumulative depreciation at the end of the year (I = G + 'I' of previous year/period)	330.01	2492.47	13366.39	28485.77

<u>O&M Expenses</u>

41. Regulation 29(1)(a) of the 2014 Tariff Regulations provides the following O&M norms for coal based generating stations of 200/210/250 MW capacity:

(Rs. in lakh/MW)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
23.90	25.40	27.00	28.70	30.51

42. The Petitioner has claimed normative O&M expenses in respect of the generating station as under:

(Rs. in lakh)

2016-17	2017-18		2018-19
COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
5265.00	5596.50	11193.00	11898.90

43. The O&M expenses, as claimed above by the Petitioner, on annualised basis, is in accordance with Regulation 29(1) of the 2014 Tariff Regulations and hence, allowed. However, the normative O&M expenses, allowed on pro-rata basis, for the period of operation are as under:

(Rs. in lakh)

2016-17	2017-18		2018-19
COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
201.95	1395.29	8402.42	11898.90

Water Charges

44. Regulation 29(2) of the 2014 Tariff Regulations provides 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 capitalization or consumption of stores and spares and renovation and modernization".*

45. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check of the details furnished by the petitioner. The Petitioner has not provided any information regarding the water charges, but has claimed the same in

Form-3A as under:

(Rs. in lakh)

2016-17	2017-18		2018-19
COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
63.39	128.72	128.72	168.06

46. The Respondent, BSPHCL submitted that the Petitioner has claimed water charges in Form-3A/3B, based on regulations, which mandate the Petitioner, to submit details of the water consumption depending upon type of plant, type of cooling water system etc, However, it has submitted that the Petitioner has not furnished any documents in support of its claim i.e., cost or volume of water consumption. In response, the Petitioner has submitted that details were provided in Form 3A along with the detailed explanation of the expenses incurred under the aforesaid head in Form 3B. In addition, the Petitioner has also furnished the circular of water resources department, Govt. of Bihar dated 3.10.2016, wherein, the water charges rate was revised.

47. The matter has been examined. It is noted that certain information furnished by the Petitioner in Form 3A, is not consistent with that of form 3B, particularly for the years 2016-17 and 2017-18. The details of segregated water consumption, prior to and post COD of Unit 2 has not been provided and the claim includes maintenance charges, but no justification has been provided. In addition to this, as per the information provided by the Petitioner, in Form 3B, the same pertains to Stage I. Further, on examining the information available on record, it is noticed that water charges paid by the Petitioner for MTPS station (both Stages I and II) during the years 2016-17, 2017-18 and 2018-19 are Rs. 0.84 lakh, Rs. 0.00 lakh, 437.69 lakh, respectively. However, as per information provided in Form 3A and 3B, the Water charges claimed are Rs. 2.4315 lakh (water charges - Rs. 0.29 lakh and Maintenance charges Rs. 2.14 lakh), Rs. 128.72 lakh (Water charges - Rs. 123.46 lakh and Maintenance charges Rs. 5.26 lakh) and Rs.

168.06 lakh (Water charges – Rs. 160.34 lakh and Maintenance charges – Rs. 7.72 lakh) during year 2016-17(18.3.2017 to 31.3.2017), 2017-18 and 2018-19, respectively. Thus, it is noted that the water charges actually paid in 2016-17 and 2018-19 but the claim made in 2016-17, 2017-18 and 2018-19 and further, the actual water charges paid for MTPS (both Stage-I&II) in 2016-17 (Rs.0.89 lakh) are much lower than claim made for the generating station (Rs.2.4315 lakh) i.e. Stage-II alone. Considering the above inconsistencies and after prudence check, in terms of Regulation 29(2) of 2014 Tariff Regulations, Water charges of Rs.0.29 lakh, Rs.0.00 lakh and Rs.283.80 lakh are allowed, in 2016-17 (18.3.2017 to 31.3.2017), 2017-18 and 2018-19, respectively. The corresponding annualised water charges allowed for 2016-17, 2017-18 and 2018-19 is Rs.7.56 lakh, Rs. 0.00 and Rs.283.80 lakh, respectively.

Capital spares

48. No capital spares on consumption basis has been claimed by the Petitioner.

Additional O&M Expenses towards GST

49. The Petitioner vide affidavit dated 11.8.2021 has claimed additional O&M expenses of Rs.110.06 lakh in 2017-18 and Rs.87.11 lakh in 2018-19 on account of payment towards GST.

50. The Respondent, BSPHCL has submitted that the Petitioner's claim of GST expenses over and above O &M norms, will lead to additional burden on the consumers and this can be applicable only if a service is outsourced. It has also submitted that services are outsourced because of efficiency issue or lack of expertise within the company, it will obviously be lower than the cost of doing that job internally and the O&M operating norms are being the ceiling norms, generating companies are required to manage within these limits. The Respondent has further submitted that through enactment of GST Act, the GOI has rationalized the tax regime by subsuming various

taxes / cess / duties, and this has generally resulted in reduction of overall applicable tax rate in the country and therefore the claim of the Petitioner does not appear to be in order. In response, the Petitioner has submitted that it is a settled position of law that promulgation of GST is change in law event and falls within the purview of Regulation 3(9) read with Regulation 14(3) of the 2014 Tariff Regulations. The Petitioner has further submitted that the amount claimed is only on account of differential rate of tax for taxable services relating to O&M i.e. under erstwhile service tax 15 % and in GST 18%.

51. The submissions of the parties, have been considered. It is observed that the Commission while specifying the O&M expense norms for the period 2014-19 had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from paragraph 49.6 of the SOR (Statement of Objects and Reasons) issued with the 2014 Tariff Regulations, which is extracted hereunder:

> *"49.6 With regards to suggestion received on other taxes to be allowed, the Commission while approving the norms of O&M expenses has considered the taxes as part of O&M expenses while working out the norms and therefore the same has already been factored in..."*

52. Further, the escalation rates considered in the O&M expense norms is only after accounting for the variations during the past five years, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties, no reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST.

<u>Additional O&M Expenses on account of impact of Wage Revision</u>

53. The Petitioner has submitted that the Commission while specifying the 2014 Tariff Regulations applicable for the period 2014-19, had taken note in SOR to the said regulations that any increase in the employee expenses, on account of pay revision

shall be considered appropriately, on case-to-case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed additional O&M expenses of Rs. 274.51 lakh in 2016-17, Rs. 361.47 lakh in 2017-18 and Rs. 788.59 lakh in 2018-19 towards impact of wage revision of employees of CISF from 1.1.2016 and the employees of the Petitioner posted in the generating station, with effect from 1.1.2017. In this regard, the Petitioner vide affidavit dated 2.2.2021 has submitted the following:

(a) Detailed break-up of the actual O&M expenses booked by the Petitioner for the 2014-19 tariff period.

(b) Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the 2014-19 tariff period.

(c) Break-up of wage revision impact on employee cost, expenses on corporate centre and on salaries of CISF of the generating station for the 2014-19 tariff period.

54. We have examined the submissions and the documents available on record. It is noticed that the Petitioner has furnished the actual O & M data for (both Stages – Stage I and Stage II of the generating station). It is also noticed that in Form 3 A, the Petitioner has furnished the wage revision impact of Rs. 274.51 lakh in 2016 -17, Rs. 361.47 lakh from 1.4.2017 to 30.6.2017, Rs. 361.47 lakh from 1.7.2017 to 31.3.2018 and Rs. 788.59 lakh in 2018-19. However, as per Annexure B, furnished in support of impact of wage revision and the detailed computation given, the claim is for Rs. 10.53 lakh, Rs. 361.47 lakh and Rs. 788.59 lakh during the years 2016-17, 2017-18 and 2018-19, respectively. Further, as the COD of Unit-I is 18.3.2017 and that of generating station is 1.7.2017, there are inconsistencies in the wage revision claim for 2016-17 and 2017-18. In this regard, on scrutiny, it is noticed that the claim for Rs. 274.51 lakh in 2016-17 was huge and inconsistent with the other years. It is further noticed that the total wage revision impact during 2017-18 is Rs. 361.47 lakh, however, the Petitioner has claimed Rs. 361.47 lakh during both the periods from 1.4.2017 to 30.6.2017 and from 1.7.2017 to

31.3.2018. Accordingly, the total wage revision impact claimed by Petitioner in Annexure-B for Rs. 1160.59 lakh (Rs. 10.53 lakh in 2016-17, Rs. 361.47 lakh in 2017-18 and Rs. 788.59 lakh in 2018-19) including Employees of CISF from 1.1.2016 and for employees of the Petitioner posted at the generating station with effect from 1.1.2017 has been considered.

55. In this regard, it is noted that the Commission while specifying the O&M expense norms under the 2014 Tariff Regulations had considered the actual O&M expense data for the period from 2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission, in the SOR to the 2014 Tariff Regulations, had observed that the increase in employees cost due to impact of pay revision impact, will be examined on a case to case basis, balancing the interest of generating stations and the consumers. The relevant extract of the SOR is extracted under:

> *"29.26. Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.*
>
> *33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The_Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted. The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement."*

56. The methodology indicated in SOR quoted above suggests a comparison of the

normative O&M expenses with the actual O&M expenses, on year to year basis. However, in this respect the following facts needs consideration:

(a) The norms are framed based on the averaging of the actual O&M expense of past five years to capture the year on year variations in sub-heads of O&M;

(b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;

(c) When generating companies find that their actual expenditure has gone beyond the normative O&M expenses in a particular year put departmental restrictions and try to bring the expenditure for the next year below the norms.

57. It is observed that the O & M expenses being common for both stages of the generating station, the Petitioner has substantiated the wage revision impact by furnishing the detailed breakup of the actual O&M expenses for both Stages, incurred during the period 2014-19. It is further noticed that Stage-I was already under operation and COD of Units I and II of Stage II (this generating station) is 18.3.2017 and 1.7.2017, respectively and the O & M norms applicable to Stages I and II are different. Further, it is also noted that the Petitioner has transferred some O & M expenses of Rs. 3737.10 lakh pertaining to 2016-19 to expenditure during construction, which accounts for the commissioning activities of Stage II.

58. In consideration of above facts, we find it appropriate to compare the O&M expense norms of both Stage I and II, with the actual O&M expenses for a longer duration, so as to capture the variation in the sub-heads. Accordingly, it is decided that for ascertaining that the O&M expense norms provided under the 2014 Tariff Regulations are inadequate / insufficient to cover all justifiable O&M expenses, including employee expenses, the comparison of the O&M expense norms and the actuals O&M expenses incurred shall be made for 2015-19 on a combined basis, for both stages of the generating station, which is commensurate with the wage revision claim being spread over these four years.

59. As stated above, the impact of wage revision / pay revision could not be factored by the Commission, while framing the O&M expense norms under the 2014-19 Tariff Regulations, since the pay / wage revision came into effect from 1.1.2016 (CISF) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of SOR to the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

(a) Comparison of the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19. For like-to-like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fee, ex-gratia, loss of provisions, prior period expenses, community development store expenses, ash utilization expenses, RLDC fee & charges and other Miscellaneous (without breakup / details) which were not considered while framing the O&M expense norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses. Having done so, if the normative O&M expenses for the period 2015-19 are higher than the actual O&M expenses (normalized) for the said period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the said period is not admissible / allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are lesser than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery associated with generating station or wage revision impact (excluding PRP and Ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

60. Accordingly, the actual and normalized O & M expenses for both Stages I and II of the generating station, for the period 2015-19 are as under:

(Rs. in lakh)

Year	Actual O&M expenses for whole MTPS, excluding water charges	Normalized O&M expenses for Stage I & II of MTPS
2015 - 16	6903.88	6459.98
2016-17	6855.67	6406.24
2017-18	11175.53	10679.77
2018-19	18033.83	16958.23

61. The wage revision impact claimed by the Petitioner and the wage revision impact claimed (excluding PRP and ex-gratia) for the generating station is as under:

(Rs. in lakh)

Year	Wage revision impact claimed for the generating station	Wage revision impact claimed for the generating station (excluding PRP / ex-gratia)
2015 - 16	-	-
2016-17	10.53	10.53
2017-18	361.47	321.09
2018-19	788.59	622.32
Total	**1160.59**	**953.94**

62. Now, the normalized O & M expenses for Stages I and II of the generating station, have been compared with the norms allowed to Stages I and II, for the period 2015-19 as under:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) MTPS (Stage I and II) (a)	6459.98	6406.24	10679.77	16958.23	40504.22
Normative O&M Expenses allowable to the Stage I (b)	8390.80	8918.80	9479.80	10076.00	36865.40
Normative O&M Expenses allowed to the Stage II on pro-rata basis for period of operation (c)	0.00	201.95	9797.71	11898.90	21898.56
Total Normative O&M Expenses allowable to both Stage I and II (d= b+c)	8390.80	9120.75	19277.51	21974.90	58763.96
Under / (Excess) recovery for the generating station (e)=(a)-(d)	(-) 1930.82	(-) 2714.51	(-) 8597.74	(-) 5016.67	(-) 18259.74

63. It is observed that during the period 2015-19, the normative O&M expenses allowed for the generating station (MTPS) is higher than that of the actual O&M expenses (normalized) and the excess recovery is to the tune of Rs. 18259.74 lakh. As such, in terms of methodology described above, the wage revision impact (excluding PRP / ex-gratia) is not allowed for this generating station.

64. Accordingly, the total O&M expenses allowed to the generating station for the period 2016-19 is as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations (a)	5265.00	5596.50	11193.00	11898.90
Normative O&M expenses allowed under Regulation 29(1)(a) of the 2014 Tariff Regulations (b)	5265.00	5596.50	11193.00	11898.90
Water Charges Claimed (c)	63.39	128.72	128.72	168.06
Water Charges Allowed (d)	7.56*	0.00	0.00	283.80
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations **(e)**	0.00	0.00	0.00	0.00
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)	0.00	0.00	0.00	0.00
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	5328.39	5725.22	11321.72	12066.96
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)	**5272.56**	**5596.50**	**11193.00**	**12182.70**
Impact of Wage revision claimed (i)	274.51	361.47	361.47	788.59
Impact of Wage revision allowed (j)	0.00	0.00	0.00	0.00
Impact of GST claimed (k)	0.00	55.03	55.03	87.11
Impact of GST allowed (l)	0.00	0.00	0.00	0.00

Annualised

Operational Norms

65. The operational norms in respect of the generating station i.e. normative annual plant availability factor, gross station heat rate, specific fuel oil consumption and auxiliary power consumption are discussed as under:

Normative Annual Plant Availability Factor

66. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the Commission vide its order dated 29.4.2019 in Petitioner No. 74/GT/2014 had allowed the Normative Annual Plant Availability Factor (NAPAF) of 83% for the period 2016-17 and 85% for the period from 2017-19. The same is considered for the purpose of revision in tariff.

Gross Station Heat Rate (kCal/kWh)

67. The Petitioner has claimed GSHR of 2375.55 kCal/kWh. The Respondent BSPHCL has submitted that the Commission while disposing off the Review Petition No. 11/RP/2019, had approved the SHR of 2375.29 kCal/kWh, instead of 2375.55 kCal/kWh as claimed by the Petitioner. It has submitted that even after the issuance of the above order, the Petitioner has claimed SHR of 2375.55 kCal/kWh. In response, the Petitioner has submitted that the generating station was envisaged during the period 2004-09 when the regulatory regime was not prescribing the Station Heat Rate ('SHR') based on boiler efficiency and turbine heat rate separately. The Petitioner has further submitted that the regulatory change came for the first time in the Tariff Regulations, 2009, which has been streamlined and continued in the 2014 Tariff Regulations, and 2019 Tariff Regulations. The Petitioner has submitted that, based on the existing provisions of the 2004 Tariff Regulations, while conducting the tendering / awarding the contract, it had not considered the boiler efficiency and the turbine heat rate prescribed in the 2014 Tariff Regulations and since the above specifications could not be stipulated at the time of entering into the contracts, the Petitioner's generating station is not able to achieve the SHR of 2375 kcal/kwh, which are more stringent. The Petitioner has added that as a result, the Energy Charge Rate (ECR) being billed and recovered by the Petitioner is insufficient, since the same is based on the normative SHR which the Petitioner is unable to achieve due to reasons beyond its control.

68. The matter has been examined. It is observed that the Commission has examined the submissions in detail in detail in Petition No. 11/RP/2019 and the Commission vide its order dated 27.1.2020 had allowed the GSHR of 2375.29 kCal/kWh. As the same is in terms of Regulation 36(C)(a) of the 2014 Tariff Regulations, the SHR of 2375.29 kCal/kWh (1.045 x 2273) is considered and allowed from COD of Unit I to 31.3.2019.

Specific Oil Consumption

69. In terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the secondary fuel oil consumption of 0.50 ml/kWh was allowed vide Commission's order dated 29.4.2019 in Petitioner No. 74/GT/2014. Accordingly, the same is allowed for the purpose of revision of tariff.

Auxiliary Power Consumption

70. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 9.00% was allowed vide Commission's order dated 29.4.2019 in Petitioner No. 74/GT/2014. Accordingly, the same is considered for the purpose of revision of tariff.

Interest on Working Capital

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

> *"28 (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."*

Fuel Cost and Energy Charges in Working Capital

72. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of

cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined.

73. Regulation 30(6)(a) of the 2014 Tariff Regulations provides as under:

"30. 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 decimals places 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, per litre or per standard cubic metre, as applicable during the month.

SFC= Normative specific fuel oil consumption, in ml/ kWh

LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month".

74. Therefore, in terms of the above regulation, for determination of the Energy charges in working capital, the GCV on 'as received' basis is to be considered. Regulation 30(7) of the 2014 Tariff Regulations provides as under:

"(7) The generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure-I to these regulations:

Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month:

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months."

75. The Regulations for computation of energy charges and issue of ‘as received’ GCV specified in Regulation 30 of the 2014 Tariff Regulations was challenged by the Petitioner and other generating companies through various writ petitions filed before the Hon’ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC). The Hon’ble Court directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on ‘as received’ basis on the request of Petitioners. In terms of the directions of the Hon'ble High Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the 2014-19 tariff period) 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.”*

76. Review Petition No.11/RP/2016 filed by the Petitioner against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. The Petitioner has also filed Petition No. 244/MP/2016 before this Commission inter alia praying for removal of difficulties in view of the issues faced by it in implementing the Commission’s orders dated 25.1.2016 and 30.6.2016 with regard to sampling of coal from loaded wagon top for measurement of GCV. The Commission by its order dated 19.9.2018 disposed of the preliminary objections of the respondents therein and held that the petition is maintainable. Against this order, some of the respondents have filed appeal before the APTEL in Appeal Nos. 291/2018

(GRIDCO v NTPC & ors) and the same is pending adjudication.

77. The Petitioner, in its earlier Petition, has claimed the cost for fuel component in working capital based on price and “as received GCV” of coal and Secondary fuel oil procured and burnt for the preceding three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II. The Petitioner has further submitted that CEA vide letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on “as received” and on “as fired basis respectively. Accordingly, the Petitioner has considered a margin of 120 kCal/kg on average GCV of coal for the period preceding three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II for computation of working capital of the generating station. Accordingly, the cost of fuel component in the working capital of the generating station based on (i) ‘as received’ GCV of coal for with adjustment of 120 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II for the generating station. The Petitioner has claimed the cost of fuel component in the working capital as under:

(Rs. in lakh)

	2016-17	**2017-18.2018)**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Cost of Coal towards stock (30 days) *	2445.62	2504.55	4992.40	4992.40
Cost of Coal towards Generation (30 days) *	2445.62	2504.55	4992.40	4992.40

Cost of Secondary fuel oil 2 months*	64.86	66.42	132.42	132.42

78. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus for 233.64 paise /kWh upto Unit-I and Rs. 232.86 paise/kWh for the generating station, based on GCV and price of fuel (coal and secondary fuel oil) as indicated above. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for 2014-19 period is to be based on such values for months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II. Also, the consideration of loss of GCV of 120 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

79. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of December, 2016, January, 2017 and February, 2017 for Unit-I and for the months of April, 2017, May, 2017 and June, 2017 for Unit-II, however, the same are inclusive of opening stock. Accordingly, the GCV and landed cost of oil as well as coal and ECR are determined from COD of Unit-I to 30.6.2017 and COD of Unit-II / the generating station to 31.3.2019 as under:

	COD of Unit-I to 30.6.2017	**COD of Unit-II to 31.3.2019**
Weighted Average GCV of Oil (kCal/ltr)	9377.86	9499.57
Weighted Average cost of Oil (Rs./kl)	54894.97	54718.78
Weighted Average GCV of Coal (kCal/kWh)	3587.59	3676.76
Weighted Average cost of Coal (Rs./Tonne)	3069.49	3138.39
Energy Charge Rate (ECR) in Rs/kWh (rounded off to 3 decimals)	2.259	2.254

80. Considering the above, the cost of fuel component in working capital is worked out and allowed as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Cost of Coal towards stock (30 days per annum) corresponding to NAPAF	2363.56	2420.51	4829.52	4829.52
Cost of Coal towards Generation (30 days per annum) corresponding to NAPAF	2363.56	2420.51	4829.52	4829.52
Cost of Secondary fuel oil 2 months per annum corresponding to NAPAF	64.86	66.42	132.42	132.42

Working Capital for Maintenance Spares

81. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses. Accordingly, maintenance spares @ 20% of the O&M expenses allowed for the generating station is as under:

(Rs. in lakh)

2016-17	2017-18		2018-19
COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
1054.51	1119.30	2238.60	2436.54

Working Capital for Receivables

82. Receivables equivalent to two months of capacity charges and energy charges has been worked out duly taking into account mode of operation of the generating station on secondary fuel, is allowed as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Variable Charges - for two months corresponding to NAPAF	4857.62	4974.67	9927.31	9927.31
Fixed Charges - for two months corresponding to NAPAF	6206.13	6288.83	10595.87	11327.21
Total	**11063.75**	**11263.50**	**20523.18**	**21254.52**

O&M Expenses (1 month) for computation of working capital

83. In terms of Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations, one month's

O&M expenses allowed is as under:

(Rs. in lakh)

2016-17 (18.3.2017 to 31.3.2017)	2017-18 (1.4.2017 to 30.6.2017)	2017-18 (1.7.2017 to 31.3.2018)	2018-19
439.38	466.38	932.75	1015.23

84. In terms of Regulation 28(3) of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 12.80% for period from COD of Unit-I to 30.6.2017 and 12.60% for the period from COD of Unit-II to 31.3.2019. Accordingly, Interest on working capital has been computed as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Working Capital for Cost of Coal towards Stock (30 days per annum) corresponding to NAPAF	2363.56	2420.51	4829.52	4829.52
Working Capital for Cost of Coal towards Generation (30 days per annum) corresponding to NAPAF	2363.56	2420.51	4829.52	4829.52
Working Capital for Cost of Secondary fuel oil (2 months per annum) corresponding to NAPAF	64.86	66.42	132.42	132.42
Working Capital for Maintenance Spares @ 20% of O&M expenses	1054.51	1119.30	2238.60	2436.54
Working Capital for Receivables - 2 months per annum corresponding to NAPAF	11063.75	11263.50	20523.18	21254.52
Working Capital for O&M expenses - 1 month per annum	439.38	466.38	932.75	1015.23
Total Working Capital	**17349.61**	**17756.62**	**33485.99**	**34497.74**
Rate of Interest	12.8000%	12.8000%	12.6000%	12.6000%
Interest on Working Capital	**2220.75**	**2272.85**	**4219.23**	**4346.72**

Annual Fixed Charges for the period 2016-19

85. Accordingly, the annual fixed charges approved, on annualised basis, for the period 2016-19 in respect of the generating station is summarized as under:

(Rs. in lakh)

	2016-17	2017-18		2018-19
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	1.4.2017 to 30.6.2017	COD of Unit-II (i.e. 1.7.2017) to 31.3.2018	
Depreciation	8603.90	8673.59	14485.34	15119.38

Interest on loan	12523.34	12504.03	19524.17	17487.61
Return on Equity	8616.23	8686.02	14153.49	18826.86
Interest on Working Capital	2220.75	2272.85	4219.23	4346.72
O&M Expenses	5272.56	5596.50	11193.00	12182.70
Total	**37236.79**	**37732.99**	**63575.23**	**67963.26**

Note: *(1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.*

86. The pro-rata fixed charges shall be calculated using the bases as under:

	2016-17	**2017-18**		**2018-19**
	COD of Unit-I (i.e. 18.3.2017) to 31.3.2017	**1.4.2017 to 30.6.2017**	**COD of Unit-II (i.e. 1.7.2017) to 31.3.2018**	
Number of days in year	365	365	365	365
Number of days for which tariff is to be calculated	14	91	274	365

87. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 29.4.2019 read with corrigendum order dated 11.6.2019 in Petition No. 74/GT/2017 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8(13) of the 2014 Tariff Regulations.

88. Petition No. 421/GT/2020 is disposed of in terms of the above.

Sd/-	***Sd/-***	***Sd/-***
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S. Jha)**
Member	**Member**	**Member**

Annexure-I

(Rs. in lakh)

Sl.No.	Name of the Assets1	Gross block on Actual COD of Unit-1 (18.03.2017)	Depreciation Rates (%)	Depreciation Amount	Gross block on 31.03.2017	Depreciation Rates (%)	Depreciation Amount	Gross block on Actual COD Station (01.07.2017)	Depreciation Rates (%)	Depreciation Amount	Gross block on 31.03.2018	Depreciation Rates (%)	Depreciation Amount
	1	**2**	**3**	**4= Col.2 X Col.3**	**5**	**6**	**7= Col.5 X Col.6**	**8**	**9**	**10= Col.8 X Col.9**	**11**	**12**	**13= Col.11 X Col.12**
1	Freehold Land	17,132.25	0.00	0	17132	0.00	0	17132	0.00	0	17175	0.00	0
2	Steam Generator	115,315.04	5.28	6089	115315	5.28	6089	215516	5.28	11379	215707	5.28	11389
3	CW system	630.97	5.28	33	631	5.28	33	1165	5.28	61	1165	5.28	61
4	DM water Plant	1,512.20	5.28	80	1512	5.28	80	1516	5.28	80	1519	5.28	80
5	Cooling Towers	3,474.56	5.28	183	3475	5.28	183	7061	5.28	373	7061	5.28	373
6	Clarification plant/PT plant	3,085.16	5.28	163	3085	5.28	163	3111	5.28	164	3117	5.28	165
7	Chimney	2,837.06	5.28	150	2837	5.28	150	2854	5.28	151	2854	5.28	151
8	Ash Handling System	-	5.28	0	0	5.28	0	0	5.28	0	3232	5.28	171
9	Ash Water Recirculation System	637.04	5.28	34	637	5.28	34	637	5.28	34	637	5.28	34
10	Coal Handling Plant	3,324.48	5.28	176	3324	5.28	176	3324	5.28	176	3324	5.28	176
11	Railway siding Work	5,649.42	5.28	298	5649	5.28	298	5649	5.28	298	5649	5.28	298
12	Air Conditioning System	350.77	5.28	19	351	5.28	19	619	5.28	33	619	5.28	33
13	Ventilation System	316.70	5.28	17	317	5.28	17	557	5.28	29	557	5.28	29
14	Fire fighting System	1,066.09	5.28	56	1066	5.28	56	2160	5.28	114	2160	5.28	114
15	HP/LP Piping	3,912.97	5.28	207	3913	5.28	207	3992	5.28	211	4036	5.28	213
16	Switch Yard Package	2,881.49	5.28	152	2881	5.28	152	2903	5.28	153	2930	5.28	155
17	Generator Bus Duct	336.56	5.28	18	337	5.28	18	680	5.28	36	680	5.28	36
18	Power Transformers Package	3,548.24	5.28	187	3548	5.28	187	6006	5.28	317	6006	5.28	317
19	HT Switchgear Package	738.57	5.28	39	739	5.28	39	1499	5.28	79	1500	5.28	79
20	LT Switchgear Package	1,160.30	5.28	61	1160	5.28	61	2405	5.28	127	2405	5.28	127
21	Cables , Cable facilities & grounding	4,428.40	5.28	234	4428	5.28	234	4428	5.28	234	4428	5.28	234
22	Main Electrical Equipment	898.90	5.28	47	899	5.28	47	900	5.28	48	900	5.28	48
23	Construction power package	634.25	5.28	33	634	5.28	33	725	5.28	38	725	5.28	38
24	BOP Others – Networking	119.54	15.00	18	120	15.00	18	120	15.00	18	120	15.00	18
25	C & I Package	2,924.60	5.28	154	2925	5.28	154	4718	5.28	249	4752	5.28	251
26	Main Plant Civil Package	34,067.62	3.34	1138	34068	3.34	1138	57440	3.34	1918	58021	3.34	1938
27	Temporary erection -civil	345.59	100.00	346	346	100.00	346	346	100.00	346	346	100.00	346
28	Civil Infrastructure Pacakge	9,539.10	3.34	319	9539	3.34	319	9598	3.34	321	9598	3.34	321
29	DM water Plant -civil	896.26	3.34	30	896	3.34	30	918	3.34	31	918	3.34	31
30	Other Mis civil work-civil	95.85	3.34	3	96	3.34	3	168	3.34	6	168	3.34	6
31	Tools & Plant	137.44	5.28	7	137	5.28	7	137	5.28	7	137	5.28	7
32	MBOA-Construction equipment	484.75	5.28	26	485	5.28	26	485	5.28	26	485	5.28	26
33	EDP	91.67	15.00	14	92	15.00	14	92	15.00	14	92	15.00	14
34	Software	9.19	15.00	1	9	15.00	1	9	15.00	1	9	15.00	1
35	Furniture Fixture & Other office equipment	234.56	6.33	15	235	6.33	15	238	6.33	15	238	6.33	15
	TOTAL	**222,817.62**		**10,346.20**	**222,817.62**		**10,346.20**	**359,106.68**		**17,085.90**	**363,268.69**		**17,292.12**
	Weighted Average Rate of Depreciation (%)			**4.6433**			**4.6433**			**4.7590**			**4.7601**