

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 408/GT/2020

Coram:

Shri P.K. Pujari, Chairperson

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Date of Order: 8th January, 2022

In the matter of

Petition for truing-up of tariff for the 2014-19 Tariff Period and for determination of tariff for the 2019-24 Tariff Period in respect of Maithon Right Bank Thermal Power Project (1050 MW) of Maithon Power Limited.

And

In the matter of

Maithon Power Limited,
Jeevan Bharti, 10th Floor, Tower-I,
124, Connaught Circus,
New Delhi-110001

.....Petitioner

Vs

1. Tata Power Delhi Distribution Limited,
33 kV Sub-station, Kingsway Camp,
Delhi –110 009
2. Damodar Valley Corporation,
DVC Towers, VIP Road,
Kolkata-700 054
3. Kerala State Electricity Board Limited,
Vidyuthi Bhawan, Pattom,
Thiruvananthapuram – 695 004
4. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan (8th Floor), Block-DJ, Sector-II, Salt Lake,
Kolkata-700 091
5. Tata Power Trading Company Limited,
Corporate Centre, 'A' Block,
34, Sant Tukaram Road, Carnac Bunder,
Mumbai 400 006

....Respondents



Parties present:

Shri Venkatesh, Advocate, MPL
Ms. Nishtha Kumar, Advocate, MPL
Shri Pankaj Prakash, MPL

ORDER

The Petitioner, Maithon Power Ltd (in short 'MPL') is a public limited company incorporated on 26.7.2000 under the provisions of the Companies Act, 1956. MPL is a joint venture between Tata Power Trading Company Ltd. (TPTCL) with an equity participation of 74% and Damodar Valley Corporation (DVC) with an equity participation of the remaining 26%. Maithon Right Bank Power Project (1050 MW) (hereinafter referred to as 'the generating station') of the Petitioner is situated in the Dhanbad District of the State of Jharkhand and is envisaged as a Mega Power Project in terms of the Ministry of Finance, Govt. of India Notification No. 63/99 dated 13.5.1999 and Notification no.100/99-Customs dated 28.7.1999. The actual date of commercial operation (COD) of Unit-I of the generating station is 1.9.2011 and the COD of Unit-II/generating station is 24.7.2012.

Background

2. Petition No. 274/2010 was filed by the Petitioner for determination of tariff of the generating station from COD of Unit-I (1.9.2011) and Unit-II (24.7.2012) till 31.3.2014 and the Commission vide its order dated 19.11.2014 determined the tariff for the said period, based on the capital cost of Rs.244839 lakh (as on 1.9.2011) and Rs.137002 lakh (as on 24.7.2012). Against this order dated 19.11.2014, the Petitioner filed Appeal No. 48/2015 before the Appellate Tribunal for Electricity (APTEL) and the same was disposed of by judgment dated 10.5.2016. Against this judgment, the Petitioner filed Review Petition (RP No. 16/2016) before APTEL and by order dated 10.10.2017, the APTEL upheld its judgment dated 10.5.2016 in



Appeal No.48/2015. During the pendency of the said appeal, Petition No. 152/GT/2015 was filed by the Petitioner for truing-up of tariff for the 2009-14 tariff period and for determination of tariff of the generating station for the 2014-19 tariff period. Meanwhile, Petition No. 72/MP/2016 was also filed by the Petitioner seeking in-principle approval of the “Abstract Schemes” of capital expenditure in compliance with Environment (Protection) Amendment Rules, 2015 issued by the Ministry of Environment, Forest and Climate Change (in short ‘MOEF & CC’) dated 7.12.2015 and the Commission vide its order dated 20.3.2017 in Petition No. 72/MP/2016 disposed of the same as under:

“10. Since, the 2014 Tariff Regulations do not provide for the grant of in-principle approval for the capital expenditure, the prayer of the petitioner for in-principle approval of the Abstract scheme of capital expenditure by relaxing the provisions of the tariff regulations through invoking Regulation 54 of 2014 Tariff Regulations, is not maintainable. In our view, since, the implementation of new norms in the existing and under construction thermal generating stations would require modification of their existing system and installation of new systems such as Retro-fitting of additional fields in ESP/replacement of ESP, etc. to meet Suspended Particulate Matter norms, installation of FGD system to control SOx and Selective Catalytic Reduction (SCR) systems for DeNox, the petitioner is directed to approach the Central Electricity Authority to decide specific optimum technology, associated cost and major issues to be faced in installation of different system like SCR, etc. The petitioner is also directed to take up the matter with the Ministry of Environment and Forest for phasing of the implementation of the different environmental measures. Accordingly, the petitioner is granted liberty to file appropriate petition at an appropriate stage based on approval of CEA and direction of MoEF which shall be dealt with in accordance with law.”

3. Subsequently, the Commission by order dated 26.12.2017 in Petition No.152/GT/2015, trued up the tariff of the generating station for the 2009-14 tariff period and determined tariff for the 2014-19 tariff period. In the said order, an amount of Rs.160 crore towards Liquidated Damages (LD) was deducted from the capital cost, till such time the Petitioner furnished details of LD settlement. Against this order, the Petitioner filed Review Petition (Petition No.16/RP/2018) on the following issues:

“a) Disallowance of 1% of additional interest rate for computing the Interest During Construction and Interest on Loan for the period 2011-14 to recover fully the interest cost with actual weighted average;



- b) *Weighted average depreciation rate for the entire generating station as shown in Form-11 and accordingly, revise the depreciation on the fixed assets for the period 2014 -19 and grant consequential relief;*
- c) *Billing as 'on received' basis at unloading point through hydraulic augur or manually;*
- d) *Allow ash disposal expenses for the period 2014-19; and*
- e) *Non-consideration of reimbursement of refinancing cost and financing charges.”*

4. Thereafter, the Commission vide its order dated 25.4.2019, disposed of the review petition (Petition No.16/RP/2018) rejecting the prayer (a) above, while allowing the other prayers (b) to (e) above. However, while allowing prayers (b) and (d), the Commission in the said order dated 25.4.2019 observed that these issues would be considered at the time of truing-up of tariff for the 2014-19 tariff period. Subsequently, by corrigendum order dated 25.4.2019, certain clerical errors in Commission's order dated 25.4.2019 in Petition No.16/RP/2018 were corrected. Against the Commission's order dated 25.4.2019 in Petition No.16/RP/2018, the Petitioner has filed appeal (Appeal No. 405/2019) before APTEL and the same is pending.

5. The Petitioner had also filed Petition No. 285/MP/2018 for inclusion of LD amount of Rs.160 crore deducted from the capital cost (*in terms of Commission's order dated 26.12.2017 in Petition No. 152/GT/2015*) and for re-computation of tariff for the tariff periods 2009-14 and 2014-19 and the Commission by order dated 17.7.2019 disposed of the same, as under:

“22. In view of the above, the total expected LD amount of `160 crore which was deducted from the capital cost vide Commission's order dated 26.12.2017 in Petition No. 152/GT/2015 is allowed to be included in the capital cost of the generating station. Consequently, the impact due to inclusion of the said LD amount in the capital cost shall be worked out and tariff of the generating station for the period 2011-14 and 2014-19 shall be revised by a separate order in Petition No. 152/GT/2015. We decide accordingly”



6. In terms of the above order, the Commission vide its order dated 1.10.2019 in Petition No.152/GT/2015, revised the annual fixed charges of the generating station for the 2009-14 and 2014-19 tariff periods, as under:

For the 2009-14 tariff period

	<i>(Rs. in lakh)</i>			
	1.9.2011 to 31.3.2012	1.4.2012 to 23.7.2012	24.7.2012 to 31.3.2013	1.4.2013 to 31.3.2014
Return on Equity	6638.57	3562.77	12522.21	24504.50
Interest on Loan	11406.46	6432.76	22039.39	32976.10
Depreciation	7410.76	3977.19	14071.72	21765.36
Interest on Working Capital	2551.51	1380.28	5848.12	8757.88
O&M Expenses	4439.39	2518.62	11090.76	17052.00
Cost of secondary fuel oil	1213.41	651.21	2641.17	3840.74
Total	33660.10	18522.83	68213.37	108896.58

For the 2014-19 tariff period

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	26206.98	27372.03	27641.49	27641.49	27641.49
Interest on Loan	30577.17	29802.87	27474.08	24608.99	21340.09
Depreciation	16024.29	21522.66	23943.11	24142.40	30720.24
Interest on Working Capital	8599.88	8809.52	8879.48	9032.77	9187.93
O&M Expenses	17746.18	18807.18	19930.18	21127.18	22398.18
Total	99154.50	106314.26	107868.34	106552.83	111287.93

7. Thereafter, the Petitioner, based on the response of CEA and MOEF&CC and in terms of the liberty granted by the order dated 20.3.2017 in Petition No. 72/MP/2016 (refer paragraph 2 above), filed Petition No.152/MP/2019, seeking amongst others, a declaration that the MOEF&CC Notification dated 7.12.2015 and its letter dated 11.12.2017 are 'change in law' events and also for the grant of 'in-principle' approval of the expenditure towards installation of FGD system for meeting the revised emission norms of SO₂. By order dated 11.11.2019, the Commission disposed of prayers (a) to (h) in Petition No.152/MP/2019 as extracted below:

“16.....Considering the fact that the expenditure shall be incurred during next tariff period commencing from 1.4.2019, prayer of the petitioner is to be dealt under the provisions of 2019, Tariff Regulations pertaining to additional capital expenditure. As per



Regulation 29 of 2019, Tariff Regulations, the additional capital expenditure to be incurred on account of revised emission standards has been recognized separately. In light of the above explicit Regulation pertaining to the additional capital expenditure on new environment standards, it is not required to invoke the provision of Change in Law as per the 2019, Tariff Regulations. Accordingly, prayer (b) of the petitioner disposed in terms of above

..The petitioner has already informed the beneficiaries about the estimated expenditure which exceeds the limit of Rs.100 crore specified under the Regulation. As such, the proposed expenditure on FGD is squarely covered within the Regulation 11 of the 2019 Tariff Regulations. Accordingly, it is held that proposed expenditure qualifies for the In-principle approval, subject to further scrutiny of the proposed expenditure

29. In view of the above, the Commission accords In-principle approval to the petitioner for following cost:

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The Commission allows the petitioner to claim IDC, IEDC, Taxes and opportunity cost at actuals which may be allowed after prudence check in accordance with the 2019, Tariff Regulations.

30. Accordingly, prayer (c) and (d) of the petitioner are disposed in terms of above

35. The norms for additional O&M expenses would be finalized by CERC. Accordingly, the claim of the petitioner for allowing O&M expenditure is not being considered at this stage. We direct the petitioner to submit the O&M expenses relating to FGD system on actual basis at the time of filling the petition for determination of tariff on commissioning of the FGD system.

38. As regards the exclusion of the shutdown period for calculation of availability for recovery of fixed charges, Commission has already taken a view that the generator in consultation with beneficiaries would plan to synchronize the interconnection of FGD with the annual overhaul so as to minimize the additional downtime required for FGD interconnection. Accordingly, Petitioner is directed to schedule the shutdown period prudently to avoid the impact on availability. However, if shutdown period for FGD integration exceeds the period of annual overhauling, the petitioner has liberty to claim the same at the time of tariff determination. Accordingly, prayer (e) and (f) of the petitioner is disposed in terms of above.

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40. As per Clause (2) of the Regulation 14 of the 2019 Tariff Regulations, the Commission has already specified the regulatory framework for determination of supplementary tariff inter-alia provides supplementary capacity charges and supplementary energy charges. This regulation is effective for 2019-24 tariff period. The Commission will determine this supplementary tariff on submission of application by the petitioner after installation of FGD. As such, state/beneficiaries may decide merit order dispatch while scheduling the plants. Accordingly, prayer (g) of the petitioner is disposed in terms of above.

41.....Further, in Petition no. 92/MP/2015 dated 08.03.2019, the Commission has clarified as under:

“xxxxx

In view of the above, the Petitioner may seek appropriate remedy in case the Petitioner relinquishes LTA due to additional APC. Accordingly, prayer (h) of the petitioner is disposed in terms of above.”



8. It is noticed that the opening capital cost of Rs.432039.88 lakh claimed by the Petitioner as on 1.4.2014 is at variance with the capital cost of Rs.432490.69 lakh as allowed vide order dated 1.10.2019 in Petition No. 152/GT/2015. In this regard, the Petitioner has clarified as under:

“Capital cost of ₹432490.69 lakh as on 1.4.2014 in order dated 26.12.2017 was approved based on admitted capital cost of 31.3.2014 in true up of tariff for 2009-14 tariff period. However, while reporting de-capitalization of assets during the 2012-13 and 2013-14 in the true-up of tariff for 2009-14, the Petitioner had inadvertently missed to exclude small de-capitalizations towards few minor assets. This omission of de-capitalization is worked out by the Petitioner as ₹450.81 lakh and is corrected in the opening value of 2014-15 i.e. (₹432490.69 lakh – 450.81 lakh) for the purpose of Tariff determination.”

9. Admittedly, the capital cost of Rs.432490.69 lakh as on 31.3.2014 (the same capital cost was considered as opening capital cost as on 1.4.2014 for determination of tariff for the 2014-19 tariff period), approved vide order dated 1.10.2019 in Petition No.152/GT2015, is without considering the de-capitalization of certain amounts for 2012-13 and 2013-14, which the Petitioner had failed to furnish at the time of truing up of tariff for the 2009-14 tariff period. Since the Petitioner, in the present petition, has submitted that there is de-capitalization of Rs.450.81 lakh for 2012-13 and 2013-14, the opening capital cost for the 2014-19 period stands revised to Rs.432039.88 lakh as on 31.3.2014, instead of Rs.432490.69 lakh as approved vide order dated 1.10.2019 in Petition No. 152/GT/2015. Here, we would like to point out that even though tariff for the 2009-14 tariff period has been trued up earlier for the generating station, the downward revision (on account of decapitalization of Rs. 450.81 lakh) in the capital cost is allowed, keeping in view the interest of consumers and tariff is modified accordingly.

Tariff for the 2009-14 tariff period

10. As discussed above, the de-capitalization of Rs.450.81 lakh for 2012-13 and 2013-14 has been allowed and based on the downward revision in capital cost, the



annual fixed charges for the period from 1.9.2011 to 31.3.2014 in order dated 1.10.2019 in Petition No.152/GT/2015 stands modified as under:

	<i>(Rs. in lakh)</i>			
	1.9.2011 to 31.3.2012	1.4.2012 to 23.7.2012	24.7.2012 to 31.3.2013	2013-14
Total annual fixed charges allowed in order dated 1.10.2019	33660.10	18522.83	68213.37	108896.58
Total annual fixed charges allowed in this order	33660.10	18522.83	68199.83	108896.58

11. The difference between the annual fixed charges recovered by the Petitioner in terms of the order dated 26.12.2017 read with order dated 1.10.2019 in Petition No.152/GT/2015 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 6(4) of the 2009 Tariff Regulations.

TARIFF FOR THE 2014-19 TARIFF PERIOD (PRESENT PETITION)

12. The present petition has been filed by the Petitioner for truing-up of tariff of the generating station for the 2014-19 tariff period, in terms of Regulation 8 of the 2014 Tariff Regulations and for determination of tariff of the generating station for the 2019-24 tariff period, in accordance with the provisions of the 2019 Tariff Regulations. We proceed to examine the claims of the Petitioner in the present petition as stated in the subsequent paragraphs.

13. The capital cost allowed vide order dated 1.10.2019 in Petition No. 152/GT/2015 for the 2014-19 tariff period is as under:

Capital cost allowed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	432490.69	458448.69	467564.69	467564.69	467564.69
Addition due to Projected additional capitalization	25958.00	9116.00	0.00	0.00	0.00
Closing Gross Block	458448.69	467564.69	467564.69	467564.69	467564.69



14. The capital cost and the annual fixed charges claimed by the Petitioner for the 2014-19 tariff period are as under:

Capital Cost claimed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	432039.88	465178.28	480597.95	481368.32	483304.48
Add: Additions during the year/ period	34679.91	14992.72	1029.48	2213.78	4380.74
Less: De-capitalisation during the year/ period	(-) 3214.56	(-) 131.14	(-) 69.61	(-) 132.63	(-) 81.37
Add: Un-discharged liability as on 1 st April of each year	4980.50	391.10	71.94	179.30	0.00
Less: Un-discharged liability as on end of each year	391.10	71.94	179.30	0.00	0.00
Cash Capitalization towards land	(-) 5506.76	0.00	0.00	0.00	0.00
Add: Normative IDC on Excess Equity	62.39	199.52	41.00	192.37	429.04
Less: De-capitalisation not performed in books	0.00	96.56	192.54	717.48	350.46
Add: Normative IDC on actual loan	2672.02	485.50	69.39	200.82	230.48
Less: IDC Capitalised in Books excluding Railways	144.00	349.53	0.00	0.00	0.00
Total Capitalisation	33138.39	15419.68	770.36	1936.17	4608.43
Closing Capital Cost	465178.28	480597.95	481368.32	483304.48	487912.91

Annual Fixed Charges claimed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	22643.97	23503.18	23832.01	24111.09	24114.97
Interest on Loan	32595.27	31716.69	27954.98	25045.86	21526.68
Return on Equity	26392.44	27955.58	28434.13	28514.13	28783.32
Interest on Working Capital	8599.88	8809.52	8879.48	9032.78	9187.93
O&M Expenses	17846.53	18932.63	20092.92	21275.50	22443.24
Other O&M expense (Ash disposal)	6098.44	3791.36	3647.73	3320.87	3340.46
Additional Tax due to Change in law	0.00	0.00	49.06	49.06	49.67
Total	114176.53	114708.95	112890.30	111349.28	109446.27

15. The Respondent No.3, Kerala State Electricity Board Limited (KSEBL) has filed its reply vide affidavit dated 17.6.2020 and the Petitioner has filed its rejoinder to



the said reply vide affidavit dated 24.7.2020. The matter was heard on 2.6.2020 and the Commission vide Record of the Proceedings (ROP) directed the Petitioner to submit certain additional information and reserved its order. In response, the Petitioner vide affidavit dated 3.7.2020 has filed the additional information and has served copies of the same on the Respondents. Taking into consideration the submissions of the parties and the documents available on record, we examine the claims of the Petitioner for the 2014-19 tariff period, on prudence check, as stated in the subsequent paragraphs.

Capital Cost

16. Regulation 9(3) of the 2014 Tariff Regulations provides as under:

“9 (3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and*
- (c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15.”*

17. We have, in paragraph 9 of this order, allowed the revision of the capital cost of the generating station to Rs.432039.88 lakh as on 31.3.2014, after considering the de-capitalization of certain amounts by the Petitioner for 2012-13 and 2013-14. Accordingly, in terms of Regulation 9(3)(a) of the 2014 Tariff Regulations, the closing capital cost of Rs.432039.88 lakh as on 31.3.2014, has been considered as the opening capital cost as on 1.4.2014.

Additional Capital Expenditure

18. Regulations 14(1) and 14(3) of the 2014 Tariff Regulations provide 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) xxxx

(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 obsolescence 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 fullcoal 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-capitalization 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-capitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place, duly taking into consideration the year in which it was capitalized."

19. The projected additional capital expenditure allowed vide order dated 26.12.2017 in Petition No. 152/GT/2015 is as under:

(Rs.in lakh)						
Sl. No	Package Name	2014-15	2015-16	2016-17	2017-18	2018-19
1	BTG Package- Station	(-) 416.00	0.00	0.00	0.00	0.00
2	Cost of Land & Site	19505.00	0.00	0.00	0.00	0.00
3	General Civil Works (GCW)	9793.00	0.00	0.00	0.00	0.00
4	Plant Water System (PWS)	214.00	0.00	0.00	0.00	0.00
5	Ash Handling System (AHS)	(-) 413.00	716.00	0.00	0.00	0.00
6	Coal Handling System	(-) 502.00	0.00	0.00	0.00	0.00
7	Reverse Osmosis (RO)System	0.00	8400.00	0.00	0.00	0.00
8	BOP Electrical	45.00	0.00	0.00	0.00	0.00
9	Township & Colony	57.00	0.00	0.00	0.00	0.00
10	Design, Engineering & Project Management	787.00	0.00	0.00	0.00	0.00
11	Pre-Operative Expenses	1836.00	0.00	0.00	0.00	0.00
12	IT System for Software	414.00	0.00	0.00	0.00	0.00
13	Interest During Construction	145.00	-	0.00	0.00	0.00
	Total (on net basis) including de-capitalization	31465.00	9116.00	0.00	0.00	0.00
14	Cash expenses towards land	(-) 5507.00	0.00	0.00	0.00	0.00
	Total additional capital expenditure (projected)	25958.00	9116.00	0.00	0.00	0.00



20. The Petitioner was directed by the said order dated 26.12.2017 in Petition No. 152/GT/2015 to furnish the calculation of IDC along with basis of IDC allocation towards additional capital expenditure and the reconciliation of the same with books of accounts.

21. The Petitioner in Form 9Bi and Form-9C of the petition, has furnished the position of additional capitalization and de-capitalization as per books of accounts as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capitalization as per books (a)	34679.91	14992.72	1087.48	2267.78	4390.74
Less: Exclusions (items not allowable / not claimed)	0.00	0.00	58.34	53.53	10.44
Additional capitalization claimed	34679.91	14992.72	1029.14	2214.25	4380.30
De-capitalization as per books of accounts	3214.56	131.14	69.61	132.63	81.37

2014-15

22. The additional capitalisation of Rs.31465.35 lakh (*after adjustment of the de-capitalisation of Rs.3214.56 lakh*) claimed in 2014-15 *vis-a-vis* the projected additional capitalisation allowed in 2014-15 vide order dated 26.12.2017 in Petition No. 152/GT/2015 are as under:

(Rs in lakh)

Head of Work/Equipment	Projected additional capitalization allowed vide Commission's order dated 26.12.2017 in Petition No.152/GT/2015	Additional capital expenditure claimed in this petition
Ash Handling System (AHS)	(-) 413.00	48.65
BOP	45.00	18.21
BTG Package – Station	(-) 416.00	730.69
Coal Handling System (CHS)	(-)502.00	1042.53
Cost of Land & Site	19505.00	21142.23
General Civil Works	9793.00	10577.92
IT System for Software	414.00	457.52
Plant Water System	214.00	252.36
Pre-Operative expenses	1836.00	207.87
Design, Engineering & Project Management	787.00	0.00
Township & Colony	57.00	57.12



Interest During Construction (General Civil Works)	145.00	144.82
Total additions (a)	31465.00	34679.91
De-capitalization (b)	(included in the above)	3214.56
Total (c)=(a)-(b)	31465.00	31465.35

23. The de-capitalization of Rs.3214.56 lakh claimed as aforesaid, includes the de-capitalization of Rs.1147.14 lakh for 'Generator Transformer', de-capitalization of Rs.1550.00 lakh corresponding to adjustment in 'Coal Handling System' and de-capitalization of Rs.462.07 lakh corresponding to adjustment on account of LD adjustment in 'Ash Handling System'.

24. The Petitioner has submitted that the actual additional capital expenditure incurred for 2014-15 is in respect of assets which form part of the original scope of work of the project and is up to the cut-off date of the generating station. COD of the generating station is 24.7.2012 and, accordingly, the cut-off date of the generating station, in terms of the 2009 Tariff Regulations is 31.3.2015. It is observed that the claim of the Petitioner for net additional capital expenditure of Rs.31465.35 lakh in 2014-15 (after adjustment of de-capitalization) is against the net projected additional capital expenditure of Rs.31465.00 lakh allowed vide order dated 26.12.2017 in Petition No. 152/GT/2015. Since the additional capitalisation claimed is in respect of assets which form part of the original scope of work of the project and is up to the cut-off date, the net additional capital expenditure of Rs.31464.35 lakh (Rs.34679.91 lakh-3214.56 lakh) is allowed in 2014-15 in terms of Regulation 14(1)(ii) of the 2014 Tariff Regulations.

2015-19

25. In Petition No.152/GT/2015, the Petitioner had claimed projected additional capital expenditure in respect of certain assets/ works, which form part of the original scope of work of the project, namely, Railway System, Township & Colony, General



Civil Works, Reverse Osmosis plant, Ash Conveying Pipeline, Ash Handling System, Coal Handling System, BOP Electrical, BTG Package, Design Engineering and Project Management, Pre-operative Expenses and Additional Spares during the period 2015-18 with a prayer for extension of cut-off date of the generating station till 31.3.2019, due to the delay in execution of these works. Though the prayer of the Petitioner for extension of cut-off date of the generating station till 31.3.2019 was rejected by order dated 26.12.2017, the Commission had allowed the projected additional capitalization in 2015-16 only towards works namely, RO system and Ash Handling System, subject to the Petitioner furnishing certain additional information at the time of truing-up of tariff of the generating station. However, in respect of other assets/ works like Railway System, Township & Colony, General Civil Works and Ash Conveying Pipeline, the projected additional capitalization for the period 2015-18 was disallowed, but liberty was granted to the Petitioner to approach the Commission for additional capitalization, based on the actual expenditure incurred and in accordance with the provisions of the applicable Tariff Regulations. The relevant portions of the order dated 26.12.2017 is extracted hereunder:

Railway System, Township & Colony, General Civil Works

“91..In view of this submission and considering the fact that capitalization of projected additional expenditure of these assets/ expenditure before 31.3.2019 is uncertain, the consideration of the prayer of the petitioner for extension of cut-off date of the generating station till 31.3.2019 would not serve any useful purpose. In this background, the prayer of the petitioner for projected capitalization of the expenditure is not allowed. However, the petitioner is granted liberty to approach the Commission for additional capitalization based on the actual expenditure incurred for these assets and the same will be considered after due diligence and prudence as per the regulation in vogue at that time. In view of this, the projected additional capitalization claimed in respect of Railways System (`31100.00 lakh in 2016-17 and `9400.00 lakh in 2017-18), Township & Colony (`2000.00 lakh in 2015-16, `3000.00 lakh in 2016-17 and `1442.00 lakh in 2017-18) and General Civil Works for `6255.00 lakh in 2015-16 has not been allowed at this stage.”

Ash Conveying Pipeline

“95...In view of this Submission and considering the fact that the capitalization of projected additional expenditure of the asset/ expenditure before 31.3.2019 is uncertain, the consideration of the prayer of the petitioner for extension of cut-off date of the generating station till 31.3.2019 would not serve any useful purpose. In this background, the prayer of the petitioner for projected capitalization of the expenditure is not allowed. However, the



petitioner is granted liberty to approach the Commission for additional capitalization based on the actual expenditure incurred for the asset and the same will be considered in accordance with the provisions of the Tariff Regulations applicable. Based on this, the projected additional capitalization claimed of `11200.00 lakh in 2017-18 in respect of Ash Conveying Pipeline has not been allowed.”

Reverse Osmosis system

100.....Considering the fact that the expenditure incurred during 2015-16 is in compliance with the directions of JSPCB mandating the installation of the RO system, we allow the claim of the petitioner under Regulation 14(2)(ii) of the 2014 Tariff Regulations. This is however subject to the petitioner filing certain additional information on affidavit namely the (i) audited actual expenditure incurred for the asset (ii) LD amount, if any, recovered from the contractor (iii) reasons for delay including IDC, if any; (iv) Cost-benefit analysis and (v) technical capacity assessment at the time of truing-up of tariff of the generating station in terms of Regulation 8 of the 2014 Tariff Regulations”

Ash Handling System

102.....It is however noticed that the work of „Ash handling system“ is continuous in nature and the said work which is included in the original scope of work of the project is being carried out in phases, during the life time of the project. In this background, we are inclined to allow the claim of the petitioner under this head in terms of Regulation 14(3)(iv) of the 2014 Tariff Regulations. This is however subject to the petitioner submitting relevant details regarding the work executed, at the time of truing-up of tariff, in terms of Regulation 8 of the 2014 Tariff Regulations”

26. Also, the Petitioner, in the Petition No.152/GT/2015, had claimed projected additional capital expenditure during 2014-19 in respect of ‘Other assets/works’ which were not part of the original scope of work of project, namely, Building and Civil Engineering works, Transformer and Sub-station equipment, Plant & Machinery, Other Assets-Unclassified and IT Equipment. The Commission, while disallowing such claims in its order dated 26.12.2017, granted liberty to the Petitioner to approach the Commission at the time of truing-up of tariff with detailed justification, including the provisions of the relevant regulations under which the said expenditure was claimed. The Commission held as under:

“110. It is observed that petitioner has not filed any details regarding the break-up of the “Plant and Machinery” Building & Civil works” and “Other un-classified assets” along with justification and the relevant provisions of the regulations under which each asset/work has been claimed for 2014-19. In this background, we are not inclined to allow the projected additional capital expenditure in respect of items/assets which are not in the original scope of work as shown in the above table. However, the petitioner is granted liberty to approach the Commission at the time of truing-up of tariff along with the detailed justification and the provisions of relevant regulations under which the expenditure has been claimed”.



27. In this background, the additional capital expenditure claimed by the Petitioner in the present petition, for the period 2015-19, are summarized below:

<i>(Rs. in lakh)</i>				
Assets/Works	2015-16	2016-17	2017-18	2018-19
Reverse Osmosis (RO) System	7798.20	(-) 28.04	57.38	-
IDC- RO system	349.53	-	-	-
Ash Handling System (AHS)	26.23	-	-	-
Balance of Plant (BOP)	445.57	5.82	-	-
BTG	837.40	1.78	-	-
Spare GT	846.76	35.73	-	-
Coal Handling System (spares)	367.53	-	-	-
Cost of Land and Site	69.98	0.40	-	2112.86
General Civil Works	791.99	184.39	154.47	147.49
Railway System	2412.62	-	-	-
IDC- Railway System	448.94	-	-	-
Town Ship & Colony	43.38	-	-	-
New Schemes	554.59	829.06	2002.40	2119.96
Total additional capital expenditure claimed	14992.72	1029.14	2214.25	4380.30
De-capitalization	131.14	69.61	132.63	81.37
Net additional capital expenditure claimed	14861.58	959.53	2081.62	4298.93

28. The Petitioner has submitted that the capitalization of these packages that form part of the original scope of work of the project could not be completed till the cut-off date (31.3.2015) on account of various factors which were beyond the control of the Petitioner and due to 'Force Majeure' reasons. The Petitioner has also submitted that after the cut-off date, most of the project packages were completed in 2015-16, except for Railway System, General Civil Works (GCW) and Land & Site, which are expected to be completed by end of 2020-21 i.e. by 31.3.2021. However, some assets in these packages have been put to use during the 2014-19 tariff period and, accordingly, part capitalization of these packages falls in the said period and the balance within the 2019-24 tariff period. The Petitioner has added that in majority of cases where additional capitalization within the original scope of work of the project has been delayed beyond the cut-off date (31.3.2015), the same has been on account of reasons beyond the control of the Petitioner. The Petitioner has, therefore, submitted that in respect of the additional capitalization during the period



2015-19, the Commission may exercise its power under Regulation 3(25) read with Regulation 8(3) and Regulation 54 of the 2014 Tariff Regulations (Power to relax) to consider the delays faced by the Petitioner due to 'Force Majeure' events and to approve the additional capitalization, within the original scope of work. In addition to this, the Petitioner has submitted that as the generating company is not entitled to Compensation Allowance as per Regulation 17 of the 2014 Tariff Regulations, funds for minor capital assets for construction or procurement under the said allowance was not available to the Petitioner. Therefore, for such expenditure on capital assets, the Petitioner has sought invocation of Regulation 54 of the 2014 Tariff Regulations (Power to relax) for consideration of such additional capital expenditure in terms of Regulation 8(3) and Regulation 14(3) read with the principles laid down under Section 61 of the Electricity Act, 2003.

29. The Respondent, KSEBL has submitted that Regulation 14 of the 2014 Tariff Regulations allows additional capitalization limited to works within the original scope of work of the project. It has also stated that the additional capital expenditure claimed in respect of assets/ works beyond the original scope of work, such as Fire tender with shed & fixed foam system, NABL accredited lab, Yard sprinkling and fire detection system in CHP, Re-heater modification & MTM installation, Coal pit run-off mechanised drainage system & segregation of storm water, Power supply redundancy and re-arrangement at BOP area, Gate house near junction tower & E-security system, Replacement of IT Equipment, Labour Colony, Augmentation of store area and MAX DCS Version up-gradation, do not fall within the scope of 'Change in law' and these claims ought to be carried out from the O&M expenses allowed to the generating station in terms of the 2014 Tariff Regulations. Based on the submissions of the parties.



30. We examine the additional capital expenditure claimed for the period 2015-19 in the following paragraphs.

Reverse Osmosis (RO) Plant

31. The Commission vide order dated 26.12.2017 in Petition No.152/GT/2015 had allowed the projected additional capital expenditure of Rs.8400 lakh for Reverse Osmosis Plant in 2015-16, subject to the Petitioner furnishing certain additional information, namely the (i) audited actual expenditure incurred for the asset; (ii) LD amount, if any, recovered from the contractor; (iii) reasons for the delay including IDC, if any; (iv) Cost-Benefit analysis; and (v) Technical capacity assessment at the time of truing-up of tariff of the generating station in terms of Regulation 8 of the 2014 Tariff Regulations. In compliance with this direction, the Petitioner has claimed the actual additional capital expenditure of Rs.8147.73 lakh [Rs 7798.20 +349.53 lakh (IDC)] in 2015-16, (-) Rs.28.04 lakh in 2016-17 and Rs.57.38 lakh in 2017-18 towards RO System, duly supported by Auditor's certificate. The Petitioner has also submitted that there was no occasion for recovery of Liquidated Damages (LD) from the contractor and since the RO plant was not delayed, there was no impact on increase in IDC. As regards Cost-benefit analysis, the Petitioner has submitted the following:

(a) The specific energy requirement of RO technology is 70% less than other desalination methods. The water recovery ratio of RO desalination system is relatively higher than other methods. The reverse osmosis desalination process is able to eliminate both organic and inorganic pollutants from water. RO technology has the advantages of convenient operation, equipment compactness, working environment safety and outlet water quality can satisfy different requirements. In power plant, the economic benefit is not the main factor that affects the recycled water promotion which is mandated by Environmental laws;

(b) Due to particularity and water quality of the boiler water supply, the cost and optimization of desalination cannot be directly applied in the RO treatment process in power plant. RO technology is known as the most



reliable, cost effective technology, with high rate of energy efficiency in producing fresh potable water in comparison to other desalination technologies. The Petitioner carried out extensive study involving Tata Power Engineering Department and Tata Consulting Engineers (TCE) to study the water balance system and acted on their advice on corrective action to be taken to ensure such Zero Liquid Discharge (ZLD) condition as imposed upon by Jharkhand State Pollution Control Board (JSPCB). Among various technologies considered during the detailed study, RO based Water Treatment System was found most suitable due to high reliability and effectiveness;

(c) With regard to technical capacity assessment, initial Performance Guarantee (PG) tests were carried out for the RO plant in November, 2016 after construction of the RO plant. However, due to various reasons, these tests were not successful. Subsequently, a month long ZLD PG test was conducted at the generating station from 31.5.2018 to 30.6.2018. The test was conducted in accordance with the approved PG test procedure and as per the modalities finalized between the Petitioner and ASA (M/s Aquatech) in the meeting held at site on 30.5.2018. ZLD operated at full load during this period of 30 days. Most of the parameters were within the guaranteed limit. Such additional cost has been borne by the Petitioner to meet the statutory compliance of JSPCB through installation of RO Plant to ensure 'zero water discharge' from the generating station; and

(d) The JSPCB provides the requisite 'Consent to Operate' (CTO) to Petitioner for operation of the project in view of fulfilment of certain requirements as per the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. JSPCB in the CTO letter dated 11.5.2012, had directed the Petitioner to ensure zero leakage discharge from the generating station. As per norms prescribed by JSPCB, the process water cannot be discharged to Maithon Dam Reservoir, due to its adverse impact on the aquatic life and ecology.

32. It is observed from the above that the Petitioner, in order to ensure compliance with the directions of JSPCB (Jharkhand State Pollution Control Board) and in order to reduce the make-up water consumption, had taken up the installation of RO system and had obtained Board's approval for the expenditure in 2013, but capitalized the expenditure in 2015-16. In view of the clarification and considering the fact that the additional capital expenditure incurred is within the approved limit of Rs.8400 lakh allowed vide order dated 26.12.2017 in Petition No. 152/GT/2015, the



claim of the Petitioner for Rs.8147.73 lakh [Rs.7798.20 +349.53 lakh (IDC)] in 2015-16 and Rs.57.38 lakh in 2017-18 is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Also, the negative adjustment of (-) Rs 28.04 lakh for RO system in 2016-17, which is in respect of the expenditure claimed for this asset in 2015-16, is also considered and allowed for the purpose of tariff.

Ash Handling System

33. The Commission, in its order dated 26.12.2017 in Petition No.152/GT/2015 had allowed the projected additional capital expenditure of Rs.716.00 lakh in 2015-16 for 'Ash Handling System' under Regulation 14(3)(iv) of the 2014 Tariff Regulations, subject to the Petitioner submitting relevant details regarding the work executed, at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations. The Petitioner, in this petition, has claimed actual additional capital expenditure of Rs.26.23 lakh in 2015-16 for this asset and has submitted that most of the works have been completed by the cut-off date. It has, however, submitted that initial spares amounting to Rs.26.23 lakh, for which procurement was initiated before the cut-off date, was delivered and capitalised in 2015-16. Therefore, the Petitioner has submitted that the Commission may permit capitalization of Rs.26.23 lakh in terms of Regulation 14(3)(iv) of the 2014 Tariff Regulations. Since the work of 'Ash Handling System' is continuous in nature and is carried out in phases, during the lifetime of the project and is within the original scope of work of the project, we allow the actual additional capital expenditure of Rs.26.23 lakh in 2015-16 under Regulations 14(3)(iv) of the 2014 Tariff Regulations.

Railway Infrastructure Package

34. The Petitioner, in Petition No.152/GT/2015, had claimed projected additional capital expenditure of Rs.31100.00 lakh in 2016-17 and Rs.9400.00 lakh in 2017-18



for 'Railway System Package' and the same was disallowed by order dated 26.12.2017, with liberty to approach the Commission for additional capitalization based on the actual expenditure incurred for the said asset/ work, for consideration of the Commission in accordance with the regulations in vogue. The Petitioner, in this petition, has claimed actual additional capital expenditure of Rs.2861.56 lakh [2412.62+448.94 (IDC)] in 2015-16 towards 'Railway System' which form part of the original scope of work of the project, but after the cut-off date. In justification of the said claim, the Petitioner has submitted the following:

a) Though the overall Railway Infrastructure Package is yet to be completed and operationalized by the Petitioner, owing to severe land acquisition related disputes as explained in this petition and detailed submissions in Petition No. 152/GT/2015, the Petitioner has completed the construction of number of roads, over-bridges and under-passes for smooth movement of public transport by road, which were falling in the way of Railway corridor. Pending completion of Railway corridor for the purpose of coal transportation to the plant, these Civil works viz., roads, over-bridges, under-passes were opened for public use and, therefore, the amount of Rs. 24.13 crore along with the corresponding IDC of Rs.4.49 crore has been capitalised in the books of accounts of the Petitioner. Accordingly, the same has been submitted for capitalisation for the purpose of tariff;

b) In case, capitalisation of these civil assets is not allowed till the completion of Railway Infrastructure Package as Railway Infrastructure has not been put to use, capitalisation (along with corresponding additional IDC) of the same may be allowed along with remaining Railway Package and to allow such capitalisation along with corresponding additional IDC or in the alternative, the Petitioner may be allowed to amend its proposal to this effect. The decision of the Commission in its order dated 4.12.2014 in Petition No. 17/GT/2013 and order dated 9.10.2018 in Petition No. 38/MP/2018 is applicable in this case.

35. It is pertinent to mention that the Petitioner, in Petition No.152/GT/2015 had sought extension of cut-off date of the generating station till 31.3.2019 stating that some of the works of 'Railway System' may not even be completed before 31.3.2019, with liberty to approach the Commission after completion of the said works. From the submissions of the Petitioner, in this petition, it is evident that the



'Railway Infrastructure Package System' work has not yet been completed and the asset has not been put to use. Only some civil work like roads, over-bridges and under-passes for smooth movement of public transport have been constructed and the expenditure incurred on these works, is sought to be capitalised by the Petitioner, under this head. In other words, the additional capitalisation claimed by the Petitioner, is not in respect of the completion of the Railway System, but only for few civil works which have been completed. Without the completion of the Railway System, the construction of these civil assets for public transport has no nexus with the generation of power from the plant. In our view, the additional capitalisation of these civil assets cannot be permitted, unless the Railway System is completed and put to use for generation and supply of power. The Petitioner's reference to order dated 9.10.2018 in Petition No. 38/MP/2018 in justification of the prayer for relaxation has no relevance in the present case and is, therefore, not considered. In view of this, the prayer of the Petitioner for additional capitalisation of Rs.2861.56 lakh in 2015-16 is not allowed. The Petitioner may approach the Commission after completion of the work related to Railway System is over.

Township and Colony

36. The Petitioner, in Petition No. 152/GT/2015 had claimed projected additional capital expenditure of Rs. 2000.00 lakh in 2015-16, Rs.3000.00 lakh in 2016-17 and Rs.1442.00 lakh in 2017-18 for 'Township & Colony' and the same was disallowed by order dated 26.12.2017, with liberty to approach the Commission for additional capitalization based on the actual expenditure incurred for the said asset/ work and for consideration as per regulations in vogue. The Petitioner, in this petition, has claimed actual additional capital expenditure of Rs. 43.38 lakh in 2015-16 for 'Township & Colony' which form part of the original scope of work, but after the cut-off date. The Petitioner has submitted that while the expenditure of Rs.57.00 lakh



capitalised in 2014-15 was within the approved total capitalisation of Rs.34680 lakh, an expenditure of Rs.43.38 lakh was capitalised in 2015-16 for this work, which form part of the original scope, but was deferred. The additional capitalisation claimed for 'Township & Colony' work in 2015-16 is on account of the same being deferred from 2014-15. The works pertaining to the township and colony, which are within the original scope of work, are spilled over works which had started prior to the cut-off date and, hence, the Petitioner was granted liberty vide order dated 26.12.2017 in Petition No 154/GT/2015 to approach the Commission after completion of the works. In the above background, we allow the additional capitalisation of Rs.43.38 lakh in 2015-16 as claimed by the Petitioner.

Cost of Land & Site and General Civil Works

37. The Petitioner, in Petition No.152/GT/2015, had not claimed any projected additional capital expenditure towards 'Cost of Land & Site' during the period 2015-19. However, the Petitioner, in the said petition, had also claimed projected additional capital expenditure of Rs.6255 lakh in 2015-16 for 'General Civil Works' with a prayer for extension of the cut-off date till 31.3.2019 and the same was disallowed vide order dated 26.12.2017. However, liberty was granted to the Petitioner to approach the Commission for additional capitalization of 'General Civil Works', based on the actual expenditure incurred and to be considered in accordance with the regulations in vogue. The Petitioner has submitted justifications for claim towards Cost of Land & Site and General Civil Works as stated below.

A. Cost of Land & Site

38. The Petitioner, in this petition, has claimed the actual additional capital expenditure of Rs.69.98 lakh in 2015-16, Rs. 0.40 lakh in 2016-17 and Rs.2112.86 lakh in 2018-19 towards 'Cost of Land & Site' which form part of the original scope of



work, under Regulation 14(1)(ii) read with Regulation 54 (Power to Relax) of the 2014 Tariff Regulations. As regards 'land acquisition' issues and consequent time and cost overrun, the Petitioner has mainly submitted the following:

(a) Acquisition of land for setting up of land-intensive projects like that for a thermal power plant is a humongous and time-consuming task. The task involved becomes even more complicated when the Project Proponent/ Developer has to deal with vast and multiple land parcels, in an area that has the environment of socio-cultural disturbances with a history of fragile industrial relations in and around that area;

(a) MPL has made earnest efforts in coordinating with various stakeholders involved, such as its equity partner – DVC (which is a statutory entity of the Central Government), the land owners, the State Government, various Government departments and other multitude of associated entities, for timely completion of the thermal power project, which today benefits Distribution Licensees in New Delhi, West Bengal, Jharkhand and Kerala;

(b) Despite serious planning and prudence, various extraneous factors that are out of bound of the project developer's control have delayed the project completion timelines. The said delay is due to 'Force Majeure' conditions and, therefore, such reasons cannot in any manner be attributable to MPL.

(c) While the zero date of the Project was 25.10.2007, possession of land and, hence, construction activity could not be started until R&R Policy was approved by Government of Jharkhand and a settlement reached with Project Affected People ("PAP") only on 31.03.2008. There is incremental cost associated with time delay/ time overrun which has ultimately led to increase in Project Cost;

(d) This following summary of events highlights some of the key facts w.r.t. land acquisition for the Project of the relevant period in the past and several associated issues in a chronological manner:

(i) The land earmarked for the project comprises land of various natures viz. Rayati (Private), Gair Majruah (GM) or State Government owned and Forest land;

(ii) The land earmarked for the project was acquired (Rayati) by DVC or leased (GM and Forest land) to DVC between the period from 2002 to 2009, but in phases, and was not transferred to MPL, either on paper or physically till 31.3.2008. Some part of project land is yet to be transferred in favour of MPL, although its possession has been given to MPL;

(iii) In the absence of R&R policy in the State, MPL had to take initiatives in the R&R activities associated with the Project;



(iv) The possession of major portion of land to MPL was available after significant delay i.e. after 31.3.2008, when R&R Policy was framed by Government of Jharkhand ('GoJ');

(v) Once major portion of the land was under possession of MPL, Project related activities were initiated and expedited to catch up with the scheduled timelines.

(vi) However, MPL faced massive resistance from the landowners not only during construction phase of the Project but also thereafter, leading to cases being filed, some of which are still pending. Therefore, MPL was compelled to litigate at multiple occasions to settle land acquisition related disputes. Some of the Writ Petitions were resolved by the Hon'ble High Court of Jharkhand and some of them are still pending before the Land Acquisition Court.

(vii) Securitization of the project land to lenders could not be done as MPL could not obtain title/ sub-lease of land in spite of repeated follow ups with relevant authorities.

(viii) GM and Forest land earmarked for the Project, though transferred to DVC by the Government of Jharkhand, was not granted the requisite permission by Government to enable DVC for further transfer/ sub-lease to MPL.

(ix) There was change in the policy clarity on whether land could be sub-leased for long period in the name of private entities like MPL.

(x) Therefore, even though DVC was a 26% equity partner for the Project, the land transferred to DVC by the Government of Jharkhand was finally permitted to be transferred and made available to MPL in 2018 i.e. after delay of almost 10 years.

(xi) MPL made relevant payments with respect to the acquisition/ sub-lease of land within reasonable timelines against the original/ amended fees/ lease to the respective department.

(xii) GoJ, which permitted MPL physical possession of GM land and its transfer under sub-lease in 2010, had later gone back on their permission, citing provisions of the (new) amendments in the land policy of 2011/14 in the State, which made the process carried out till then redundant, thereby leading to additional associated cost and loss of time. The Change in Policy of GoJ fall within the scope of 'Change in law'.

(xiii) GoJ was fully aware of the shareholding pattern of MPL at the time of granting permission and despite the same, revoked the permission for sub-leasing of the land granted to it on the grounds that MPL is not a Government entity.



(xiv) On the grounds of new/ amended policy, provisions and restrictions on sub-lease to only Government entities, GoJ had asked DVC to surrender its sub-lease permission and the leased land, back to the Government.

(xv) MPL initiated its efforts for direct lease of land (GM land and un-notified Forest land) from GoJ under the land Policy of 2017. In response thereto, MPL received fresh 'Demand note' for the difference in current and previously paid rates with regard to un-notified land from Government which it has paid in 2018-19. The Demand note for GM land is expected to be received by MPL in the near future.

The Petitioner has furnished in detail, the justification for time and cost overrun in Annexure-P/4 and P/5 of the petition.

B. Cost Over-run for land

39. The Petitioner has submitted that in order dated 26.12.2017 in Petition No.152/GT/2015, a total of Rs.19505 lakh was approved towards Cost of Land & Site expenses in 2014-15. It has stated that the actual capitalisation under Land & Site head had increased to Rs.21142 lakh as compared to initially approved amount of Rs.19505 lakh. This, according to the Petitioner is due to internal adjustment of Rs.1628 lakh between two heads viz. "Cost of Land & Site" and "Pre-Operative expenses". The Petitioner has also submitted that the capitalization approved by the Commission under Pre-operative expenses was Rs.1836 lakh in 2014-15. However, the actual additional capitalization towards Pre-operative expenses was Rs. 208 lakh in 2014-15 and the remaining amount of Rs.1628 lakh initially approved under Pre-operative expenses was capitalised under "Cost of Land & Site" owing to the nature of expense as the statutory auditor changed the category of lease hold land due to which the amount of Rs.1628 lakh was shifted from pre-operative expenses to cost of land and is, thus, claimed as part of capitalisation under the head 'Cost of Land & Site in 2014-15'. The Petitioner has further submitted that there has been inter-se adjustment between these two heads of capitalisation, owing to re-categorization of



expenses heads in audited accounts way back on 11.5.2015 by statutory auditor and there is no increase in the overall actual capitalisation under these heads put together in 2014-15. In addition to the above, the Petitioner has submitted that it had incurred an expenditure of Rs.70 lakh in 2015-16, Rs.40 lakh in 2016-17 and Rs.2113 lakh in 2018-19 for purchase/ leasing of following land parcels:

- (i) Purchase of private land in Mugma Village for Railway Corridor (Rs.0.70 crore in 2015-16, Rs.0.004 crore in 2016-17 and Rs.1.72 crore in 2018-19);
- (ii) Payment of fresh demand for un-notified Forest land admeasuring 191.67 acre (Rs.11.61 crore in 2018-19);
- (iii) Payment of demand for GM land acquired for Railway Corridor and Payment of License fee for Railway land acquired for Railway Corridor (Rs.6.47 crore in 2018-19);
- (iv) Payment of fresh demand of GM Land (114.95 acre) for the Project (2019-24);

40. The details of additional capitalization towards Land & Site for 2015-19, as tabulated by the Petitioner, are as under:

Category		<i>(Rs. in crore)</i>			
		2015-16	2016-17	2017-18	2018-19
Main Plant Land					
Raiyati	Freehold land-Main Plant	-	-	-	-
Forest Land	Forest Land- Main project	-	-	-	11.61
GM land	GM land	-	-	-	-
Railway Land					
Raiyati	Freehold Land- Railway	0.7	0	-	-
	Freehold Land- Railway- Mugma	-	-	-	1.72
GM Land	GM land Railway-I	-	-	-	-
	GM Land- Railway-II	-	-	-	6.47
	Eastern Railway Land-II	-	-	-	1.04
	Eastern Railway Land-I	-	-	-	0.3
	Krishi Farm and tribal land	-	-	-	-
	Contingency	-	-	-	-
	Total	0.7	0	-	21.13

41. Accordingly, the Petitioner has submitted that due to changes in policies and the stand of 'GoJ' on transfer of land, the land transfer to the Petitioner for the Project had been delayed. The Petitioner had been asked to pay additional amount



on account of transfer of land from DVC to the Petitioner and also additional payments to the landowners were mandated by the State Government, thereby increasing the project cost.

C. General Civil Works

42. The Petitioner has claimed actual additional capital expenditure of Rs.791.99 lakh in 2015-16, Rs.184.39 lakh in 2016-17, Rs.154.47 lakh in 2017-18 and Rs.147.49 lakh in 2018-19 towards 'General Civil Works' which form part of the original scope of work, under Regulation 3(25) and Regulation 8(3) read with Regulation 54 of the 2014 Tariff Regulations. The Petitioner has submitted that delay in execution of 'General Civil Works' package capitalised during the period 2015-19 is on account of the various 'Force Majeure' reasons which were beyond the control of the Petitioner. As regards General Civil Works (GCW), the Petitioner has submitted that in terms of the liberty granted vide order dated 26.12.2017, the Petitioner has claimed actual capital expenditure of Rs.10578 lakh in 2014-15 for General Civil Works against the approved cost of Rs.9793 lakh. It has also submitted that an amount of Rs.787 lakh allowed in 2014-15 towards Design, Engineering and Project Management has been capitalized under 'General Civil Works' in 2014-15 as 'Engineering and Project Management' were provided for 'General Civil Works' package. Thus, a total amount of Rs.10578 lakh in 2014-15 has been claimed under this head, taking both the heads together. According to the Petitioner, there has been inter-se adjustment between these two heads of capitalization owing to re-categorization of expenses, but there is no increase in the overall actual capitalization under these heads put together. The details of the expenditure and the reasons for the delay as furnished by the Petitioner are as under:

- (i) Boundary Wall and Peripheral Road inside Plant along Boundary Wall:**
Boundary wall work was delayed due to various land related disputes and other problems which were beyond the control of the Petitioner. The contract for boundary



wall was awarded to M/s Premier Traders in 2012-13. However, due to various land disputes and other problems, the contractors could not complete the work on time citing problems created by local villagers as is evident from letters dated 23.6.2013, 7.7.2014, 23.9.2014, 19.1.2015 and 3.3.2016. Due to non-completion of the boundary wall, the Jharkhand Pollution Control Board (JPCB) in its Consent to Operate letter dated 23.5.2014 directed that the occupier shall construct pucca minimum 10 feet high boundary wall. The boundary wall was, therefore, required to be expedited covering the entire area around ash pond by wall of 7 km (approx.) length to securitise most of the key and sensitive areas. Various police complaints dated 3.2.2016, 5.5.2017, 13.9.2017, 6.4.2018 were also lodged by the security supervisor regarding agitation initiated by villages. At present, 226 acres (out of 1116 acres) of plot of land is not covered by boundary wall because this 226 acre land parcel is partly inhabited by tribal and non-tribal people and, hence, this area had to be cordoned off internally with grid pillars. As most of the key and sensitive areas have been covered and securitised with proper boundary wall, it is proposed that entire remaining land asset including grid pillars is covered, securitised or demarcated by boundary wall (balance 6.45 km out of total 27.75 km). The completion status of the boundary wall is as under:

Sl. No.	Description	Completion status (in km)
1	Boundary wall completed by 31 st March 2014	13.75
2	Boundary wall completed by 31 st March 2016	4
3	Boundary wall completed by 31 st March 2019	3.55
4	Boundary wall to be constructed	6.45
		27.75

The phasing of boundary wall capitalization is Rs 4.71 crore in 2015-16, Rs 1.43 crore in 2016-17, Rs 1.54 crore in 2017-18 and Rs 1.47 crore in 2018-19 and Rs 1.60 crore in 2019-20.

(b) Field Hostel (part of work got delayed): The Commission in its order dated 19.11.2014 (in Petition No.274/2010) had acknowledged that there is a need of field hostel within the boundaries of the plant for smooth, intervention free operation of the plant, considering the difficult remote location of the plant, accessibility at odd hours and frequent blockages and agitation by local villagers backed by factional politicians. The contract for construction of field hostel was awarded to M/s Kanwar Enterprises (P) Ltd in 2014. However, while carrying out the construction work, the contractor faced several hindrances from the local people. Therefore, M/s Kanwar addressed letter dated 13.5.2015 to the Petitioner, citing the reason for delay of field hostel and requested for time extension for the work. When the contractor started the work by making burgees for the layout and by installation of borewell, the locals damaged the burgees and borewell claiming to be owners of the land. This problem took around 2 months to be sorted out. Again, after starting the work, it was stopped by the locals demanding that work should be executed through them only. The contractor was ready, but the rates were very high and it took almost one month to convince them and make them ready to work at genuine rates. But the villagers could not deliver the required number of labour and the work was stopped. After resuming the work with available labour, it was again stopped by local vendors for about 45 days due to land dispute. Work was also stopped for 15



days by Samity people and the locals. There were also cases of hindrances by local vendors for around 30 days citing rate revision and various other reasons. In view of above reasons, which were totally out of control of the Petitioner and its contractor, the contractor asked for extension of contract thereby delaying some part of the project. Due to above issues, some part of the project got delayed by almost 3 months and 20 days and was finally completed in 2015-16. An amount of Rs.321 lakh and Rs.42 lakh was capitalized in 2015-16 and 2016-17 against Field Hostel and minor pending works of Gate House, Township etc.

43. We have examined the claims and justifications given by the Petitioner. According to the Petitioner, the cost of land had increased on account of changes in the policies of the Government of Jharkhand. Also, the works of Boundary wall and the peripheral road inside Plant along Boundary Wall and Field Hostel got delayed due to various force majeure events. Based on this, the Petitioner has prayed for relaxation of the provisions of 2014 Tariff Regulations to allow the additional capitalisation incurred due to reasons not attributable to the Petitioner. Regulations 3(25) and 54 of the 2014 Tariff Regulations are extracted hereunder:

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

Regulation 3(25). 'Force Majeure' *for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the generating company or transmission licensee to complete the project within the time specified in the Investment Approval, and only if such events or circumstances are not within the control the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices: a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or (b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or (c) Industry wide strikes and labour disturbances having a nationwide impact in India;*

44. It is observed from submissions of the Petitioner that the land payments are mainly due to (i) payment of fresh demand for un-notified Forest land, payment of demand for GM land acquired for Railway Corridor and (ii) payment of license fee for Railway land acquired for Railway Corridor etc. The payment delays were mainly



related with Railway Corridor disputes and Land site development. The purchase of private land in Mugma Village for Railway Corridor (for Rs.70 lakh in 2015-16, Rs.40 lakh in 2016-17 and Rs.172 lakh in 2018-19) and the Payment of fresh demand for un-notified Forest land measuring 191.67 acre (for Rs.1161 lakh in 2018-19) pertains to Railway corridor and the delay is attributable to the dispute which had arisen due to wrongful disbursement of land compensation amongst the beneficiaries. This resulted in Writ Petition No. 5084 of 2016 being filed by the Petitioner before the High Court of Jharkhand, wherein, directions were issued by the High Court on 6.9.2016 to the Deputy Commissioner, Dhanbad to expedite the resolution of land issues. As the matter could not be fully resolved, the Petitioner again filed Writ Petition No. 5242 of 2017 before the High Court of Jharkhand and the High Court in its judgement dated 22.2.2018, directed the State Government (GoJ) to cancel the earlier awards passed in favour of wrongful persons/ awardees and to further prepare fresh awards in favour of genuine persons within four months. The High Court's order dated 22.2.2018 has been enclosed as Annexure P6/H to the petition. In respect of (i) Payment of demand for GM land acquired for Railway Corridor and payment of license fee for Railway land acquired for Railway Corridor (for Rs.647 lakh in 2018-19) and (ii) Payment of fresh demand of GM Land (114.95 acre) for the project in 2019-24, it is noticed that additional payments were required to be made due to change in the policy of State Government (GoJ) for leasing the land. The sequence of events in regard to the leasing of land is enumerated below:

(i) On 5.1.2010: The Government of Jharkhand accorded in-principal approval to DVC for sub-leasing 114.95 acres (already leased to DVC) of land to MPL. Reference placed at annexure P/5-C of the petition.

(ii) On 22.1.2011: The Government of Jharkhand amended the leasing policy of land and held that on leased out land, third party right cannot be created and thereby sub-leasing already accorded to MPL vide letter dated 5.1.2010 became ineffective. Reference placed at annexure P/5-E of the petition.



(iii) On 30.9.2014: The Government of Jharkhand directed DVC to surrender 114.95 acres (already leased to DVC) of land stating that the DVC share being less than 51% in MPL, it does not fall under the category of government company as per Company Act. Thus, sub-leasing to MPL by DVC was withdrawn. Reference placed at annexure P/5-H of the petition.

(iv) On 4.1.2017: The Government of Jharkhand revised the rates for leasing of the land and thereby creating additional liability to MPL for the same land which was sub-leased to the Petitioner by DVC. Reference placed at annexure P/5-K of the petition.

(v) On 20.10.2017: DVC intimated to Govt. of Jharkhand that DVC Board had approved the surrender of 114.95 acres of land for subsequent grant of the same land to the Petitioner. Reference placed at annexure P/5-L of the petition.

(vi) On 08.11.2017: Petitioner requested the Govt. of Jharkhand that to initiate the leasing process directly in favour of the Petitioner and the same land is already in use for power plant. Reference placed at annexure P/5- of the petition.

(vii) On 24.11.2018: The Govt. of Jharkhand directed the Petitioner for further payment of Rs.43.69 lakh for leasing land to the Petitioner. Reference placed at annexure P/5-T of the petition.

45. On perusal of the sequence of events and documents furnished by the Petitioner, it is observed that the delay in payment towards land and site was due to change in policy of the State Government of Jharkhand. Scrutiny of the documents furnished indicates that 'land issues' had prolonged till 24.11.2018, i.e. even after the cut-off date. Though the said work form part of the original scope of work of the project, the Petitioner had to continue the execution of these works even after the cut-off date on account of the delay in the availability of land and site. Similarly, the delay in the development of Railway Corridor was cleared when Hon'ble High Court of Jharkhand vide its judgment dated 22.2.2018 had directed the State Government of Jharkhand to cancel the earlier awards passed in favour of wrongful awardees and to prepare fresh awards in favour of genuine persons and to proceed in accordance with law. The Petitioner had made all payments mandated due to change in policy of the State Government of Jharkhand and as a consequence of cancellation of wrongful disbursement of land compensation award. Therefore, the



expenditure so incurred has been claimed in this petition on actual and audited basis. Similarly, in the case of General Civil Works (Boundary wall and Field hostel), the delay in execution of these works is consequent upon the delay in the availability of land and are for reasons not attributable to the Petitioner. As regards the prayer of the Petitioner for extension of cut-off date till 31.3.2019, the Commission in its order dated 26.12.2017 in Petition No.152/GT/2015 had decided as under:

“In view of this submission and considering the fact that capitalization of projected additional expenditure of these assets/ expenditure before 31.3.2019 is uncertain, the consideration of the prayer of the petitioner for extension of cut-off date of the generating station till 31.3.2019 would not serve any useful purpose. In this background, the prayer of the petitioner for projected capitalization of the expenditure is not allowed. However, the petitioner is granted liberty to approach the Commission for additional capitalization based on the actual expenditure incurred for these assets and the same will be considered after due diligence and prudence as per the regulation in vogue at that time...”

46. As already observed, the delay in the availability of land & site was due to changes in the policy of the Govt. of Jharkhand, cancellation of wrongful disbursement of land compensation award and clearance for the development of Railway Corridor after payment of compensation. Also, the delay due to non-availability of land had caused the delay in execution of the General Civil Works by the Petitioner and the same cannot be attributable to the Petitioner. From the documents enclosed by the Petitioner, it is noticed that the Petitioner has been coordinating with the local administration for speedy resolution of the land issues and has been taking steps to mitigate the delay. Accordingly, actual additional capitalisation of Rs.69.98 lakh in 2015-16, Rs 0.40 lakh in 2016-17 and Rs.2112.86 lakh in 2018-19 towards Land & Site is allowed under Regulation 14(3(i) of the 2014 Tariff Regulations. Consequently, as the General Civil Works were also delayed due to delay in the possession of land, for which reasons and justifications have been furnished in previous paragraphs, the actual additional capitalisation of Rs.791.99 lakh in 2015-16, Rs.184.39 lakh in 2016-17, Rs.154.47 lakh in 2017-18 and



Rs.147.49 lakh in 2018-19 towards General Civil Works is also allowed under Regulation 14(3(i) of the 2014 Tariff Regulations.

Coal Handling System

47. The Petitioner, in Petition No.152/GT/2015 had claimed projected additional capital expenditure of Rs.959.00 lakh in 2015-16 and Rs.2142.00 lakh in 2016-17 towards 'Coal Handling System' under Regulation 14(3) of the 2014 Tariff Regulations. By order dated 26.12.2017, the said claim was rejected as under:

"In response to the Commission's directions vide ROP of hearing dated 12.1.2016, the petitioner has not furnished any details of the works to be executed, the reasons/justification for the delay in the execution of 'Coal Handling System' beyond the cut-off date of the project. In this background, the projected additional capital expenditure for Coal Handling System claimed by the petitioner after the cut-off date is not allowed"

48. The Petitioner, in the present petition, has claimed actual additional capital expenditure of Rs.367.53 lakh (including spares for Rs.282.72 lakh) in 2015-16 towards 'Coal Handling System' (which form part of the original scope of work of the project, but after the cut-off date) under Regulation 3(25) read with Regulation 8(3) and Regulation 54 of the 2014 Tariff Regulations. The balance amount of Rs.84.81 lakh (Rs.367.53 lakh - Rs.282.72 lakh) is towards Stone Picking shed (for Rs.42.79 lakh), Fire Detection system (for Rs.21.04 lakh) and 'Others' (Rs.20.98 lakh). In justification of the same, the Petitioner has submitted that the actual additional expenditure incurred under 'Coal Handling System' package is Rs.1040 lakh in 2014-15 and Rs. 367.53 lakh in 2015-16. It has submitted that Rs.367.53 lakh capitalised in 2015-16 mostly relates to the procurement of initial mandatory spares, which was initiated and procured prior to the cut-off date (31.3.2015), while the procurement of balance spares was concluded in 2015-16. Regulation 14(1)(3) of 2014 Tariff Regulations permits the capitalization of spares up to cut-off date, in accordance with the provisions of Regulation 13 of the 2014 Tariff Regulations (4%



of Plant & Machinery cost as on the cut-off date). It is noticed that the claim of Rs.282.72 lakh towards initial spares pertains to initial spares which form part of the original scope of the Plant and Machinery. It is evident from the submissions of the Petitioner, that the procurement of spares was initiated even before the cut-off date (31.3.2015), but spares were received only during 2015-16. Since the claim of the Petitioner for additional capitalisation of Rs.282.72 lakh in 2015-16 is towards initial spares for 'Coal Handling System' after the cut-off date, the same is allowed in relaxation of Regulation 14(1)(3) of 2014 Tariff Regulations. However, the balance amount of Rs.84.81 lakh (Rs.42.79 lakh for Stone Picking shed, Rs.21.04 lakh for Fire Detection system and Rs.20.98 lakh towards 'Others') have not been allowed as the items do not form part of initial spares and no justification has also been furnished by the Petitioner for capitalization after the cut-off date.

BTG & Spare GT

49. The Petitioner, in Petition No. 152/GT/2015, had claimed projected additional capital expenditure of Rs.1616 lakh in 2015-16 towards BTG Package and the same was not allowed by the Commission in its order dated 26.12.2017. The Petitioner, in the present petition, has claimed actual additional capital expenditure of Rs.837.40 lakh for BTG package (including spares for Rs.777.30 lakh) and Rs.846.76 lakh for Spare GT in 2015-16, Rs.1.78 lakh for BTG and Rs.35.73 lakh for Spare GT in 2016-17, which are within the original scope of work of the project, but after the cut-off date. The balance amount of Rs.60.10 lakh (₹837.40 - ₹777.30) under BTG package apart from Spares is towards 'Workshop equipment' (Rs.23.83 lakh), 'Mill hoist' (Rs.15.23 lakh) and 'Others' (Rs.21.05 lakh). The Petitioner, in justification of the said claim has submitted that the expenditure mainly relates to mandatory 'Initial capital spares', which were required to be procured before the cut-off date (31.3.2015). It has, however, submitted that due to their non-critical requirement for



purpose of COD, the procurement of most of these items was initiated prior to the cut-off date from M/s BHEL, but their procurement was concluded in 2015-16. Accordingly, the Petitioner has submitted that the additional capital expenditure falls within the scope and ambit of Regulation 54 read with Regulation 8(3) and Regulation 14(3) of the 2014 Tariff Regulations.

50. The Respondent, KSEBL has submitted that the Petitioner has not furnished any details and justification for the claim and the same is not in line with Regulation 14(3) of the 2014 Tariff Regulations. It has further submitted that the BTG package was capitalized after the cut-off date and is not allowable in terms of the regulations, as the Petitioner has not furnished any valid reason for extension of procurement of the same beyond the cut-off date. Accordingly, KSEBL has submitted that the claim of the Petitioner may be disallowed. In response, the Petitioner has submitted that the cut-off date of the generating station is 31.3.2015, which is within the first year (2014-15) of the 2014-19 tariff period. The Petitioner has stated that the claim under Regulation 14(3) is inadvertent and the same may be read as Regulation 14(2) of the 2014 Tariff Regulations. Accordingly, it has submitted that the claim is within the original scope of work of the project. The Petitioner has further submitted that the contractual liability was created in 2014-15, but was reflected in 2015-16 only after supply of material was received, as in supply contracts liability is created immediately upon execution of contract and recognition in books of accounts, only after material is received along with bills. The Petitioner has also furnished the details in Annexure P/12 of the petition. The Petitioner has contended that due to force majeure condition, arising on account of multiple failures, the Petitioner had to procure the assets, the process for which had started in 2014-15. It has also added that initial spare GTs under contingency budget for deferred initial spares was procured to sustain the unit operation during any future eventuality. Therefore, the



Petitioner has stated that the additional capital expenditure claimed falls within the scope of Regulations 14(3)(iii) and 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations.

51. In addition, the Petitioner has submitted that for key initial spares, such as BCW pump, journal shaft, workshop, IA compressor spare, High energy drain valve, HP plunger pump, Mill hoist for Unit-2, Instrumentation capital spares and Spare GT, the procurement of these spares were initiated prior to the cut-off date, but the OEM could deliver these items only after the cut-off date. It has been stated that these items are urgently required for the operation of the generating station and by procurement of these spares after the cut-off date, no extra cost had occurred to the beneficiaries. The Petitioner has further stated that in terms of Regulation 13 of the 2014 Tariff Regulations, the capitalisation of initial spares is limited to 4.0% of Plant & Machinery cost up to cut-off date for coal-based/ lignite-fired thermal generating stations. It has submitted that the total Plant & Machinery cost up to cut-off date is Rs.2821.82 crore and in terms of Regulation 13 of the 2014 Tariff Regulations, the amount of Initial spares to be capitalised is limited to Rs.112.87 crore i.e. (4% of Rs.2821.82 crore). The Petitioner has pointed out that initial spares of Rs.71.64 crore, capitalised till 2013-14, were approved in the order dated 26.12.2017 in Petition No. 152/GT/2015 and further, initial spares of Rs.14.83 crore and Rs.21.53 crore have been procured and capitalized under various packages during the years 2014-15 and 2015-16 respectively. The summary of initial capital spares, as furnished by the Petitioner is as under:

<i>(Rs. in crore)</i>	
Initial Spares	Amount
Initial Spares supplied till 31.3.2014 (A)	71.64
Initial Spares supplied during 2014-15 (B)	14.83
Initial Spares supplied during 2015-16/ 2016-17 (C)	*21.53
Total (A+B+C)	108.00
4% of P&M cost	112.87



**including BTG spare of Rs.777.30 lakh and Spare GT of Rs.846.76 lakh*

52. Thus, the total value of Initial spares procured till 2015-16 is Rs.108 crore which is within the ceiling of Rs.112.87 crore i.e. (4% of Rs.2821.82 crore), specified under Regulation 13 of the 2014 Tariff Regulations. The Petitioner has submitted that it has procured initial spares as and when it was required and some spares were procured in 2015-16, after cut-off date. Regulation 14(1)(3) of the 2014 Tariff Regulations permits the capitalization of capital spares up to the cut-off date in accordance with Regulation 13 of the 2014 Tariff Regulations (i.e. 4% of Plant & Machinery cost as on the cut-off date). It is evident from the submissions of the Petitioner that the initial spares form part of the original initial cost of the plant and machinery. The procurement of spares was initiated before the cut-off date (31.3.2015) but the OEM had delayed the delivery of the same. Since the Petitioner is entitled for initial spares up to 4% of Plant and Machinery cost, we allow Rs.777.30 lakh towards initial spares of BTG package in exercise of the power to relax under Regulation 54 of the 2014 Tariff Regulations. However, the amount of Rs.60.10 lakh (Rs.837.40 - Rs.777.30) towards BTG package which include Workshop equipment (Rs.23.83 lakh), Mill hoist (Rs.15.23 lakh) and for Others (Rs.21.05 lakh) during 2015-16 and Rs.1.78 lakh in 2016-17 have not been allowed as the capitalization has occurred after the cut-off date and reasons furnished by the Petitioner do not justify the capitalization of these assets after the cut-off date.

53. As regards claim of the Petitioner for additional capitalisation of Rs.846.76 lakh in 2015-16 and Rs 35.73 lakh in 2016-17 towards Spare GT, the Petitioner has submitted that the same may be allowed as 'replacement' as the original Generator Transformer (GT) procured prior to COD had failed and has been de-capitalized at its gross value of Rs.1147.14 lakh in 2014-15. This submission of the Petitioner has been verified from the list of assets de-capitalized in 2014-15 and it is noticed that



GT has been de-capitalized at the aforesaid gross value, which is more than the cost of new GT (i.e. Rs.846.76 lakh). Accordingly, the additional expenditure of Rs.846.76 lakh in 2015-16 and Rs.35.73 lakh in 2016-17 towards Spare GT is allowed for the purpose of tariff as 'replacement' since the gross value of the old asset has been de-capitalized in terms of the provisions of Regulation 14(4) of the 2014 Tariff Regulations.

Balance of Plant (BOP)

54. The Petitioner has claimed actual additional capital expenditure of Rs.445.57 lakh in 2015-16 and Rs.5.82 lakh in 2016-17 towards 'BOP' which form part of the original scope of work of the project, but after the cut-off date. The claim of the Petitioner for Rs.5.82 lakh in 2016-17 is under the head 'Others'. In justification of the said claim, the Petitioner has categorised the capitalization of this package in 2015-16, as under:

<i>(Rs. in lakh)</i>	
Asset Description	2015-16
Condition Monitoring Instruments	207.20
Initial mandatory spares	185.10
Electrical System for Plant facilities	53.27
Total	445.57

55. The Respondent, KSEBL has submitted that the additional capitalization claimed after the cut-off date may not be allowed. In response, the Petitioner has submitted that the capitalization claimed under BOP package, beyond the cut-off date, is mainly towards the procurement of condition monitoring equipment/ testing instruments and initial spares. It has submitted that the procurement process was initiated within the cut-off date and order was placed in March 2015/ early April 2015, but the supply got concluded in 2015-16. The Petitioner has stated that the delay was on account of multiple failure of the units during the years 2013-14 and 2014-15, thereby delaying the initial stabilization of the units. It has added that on account of



this 'force majeure' condition, the additional capitalization falls under the purview of Regulation 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations (Power to relax). The Petitioner has further submitted that the additional capitalization for assets which form part of the original scope of the project, but also have life of more than one accounting period and is an integral part of the existing assets. Hence, such expenditure incurred are capital in nature and are not charged to O&M expenses in the books of accounts of the Petitioner.

56. We examine the claims of the Petitioner in following paragraphs.

(a) Condition Monitoring Instruments

57. The Petitioner has submitted that Regulation 46 of the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010 specifies standards for Condition Monitoring of Electrical equipment. It has submitted that the procurement process of testing instruments was initiated on 13.8.2014 (within the cut-off date) after finalizing the specifications and the bidding process was initiated and Purchase order was issued to qualified supplier on 6.4.2015. The equipment was procured in batches in order to lessen the burden of cost in one year. The Petitioner has also submitted that major procurement was done in 2015-16 for Rs.207.20 lakh and the remaining equipment were purchased in 2016-17. The Petitioner has submitted that since the said expenditure has been incurred in furtherance to the Regulations specified by CEA, the expenditure incurred squarely falls within the scope of Regulation 14(3)(ii) of the 2014 Tariff Regulations.

58. We have considered the submissions of the Petitioner. Since the additional capital expenditure for Rs.207.20 lakh for Condition Monitoring of Electrical equipment has been incurred in compliance with the CEA (Technical Standards for



Construction of Electrical Plants and Electric Lines) Regulations, 2010, the same is allowed to be capitalised under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(b) Initial mandatory spares

59. The Petitioner has claimed initial mandatory spares for Rs.185.10 lakh and has stated that these mandatory spares were procured as and when they were required and some spares were procured in 2015-16 i.e. after cut-off date. The Petitioner has stated that the same is within the ceiling of initial spares as per the provisions of the 2014 Tariff Regulations.

60. We have considered the submissions. The claim of the Petitioner for Rs.185.10 lakh towards mandatory spares pertain to initial spares which form part of the original scope of the Plant and Machinery. It is evident from the submissions of the Petitioner that the procurement of the spares was initiated before the cut-off date (31.3.2015), but were received only during 2015-16. Accordingly, the claim of the Petitioner for additional capitalisation of Rs.185.10 lakh in 2015-16 towards initial spares for 'BOP spares' after the cut-off date is allowed under Regulation 14(1)(3) of 2014 Tariff Regulations, in exercise of the power to relax.

(c) Electrical system for Plant facilities

61. The Petitioner has submitted that facilities like field hostel, gate house and canteen were delayed due to land issues and local agitation as explained under "General Civil Works" package. Hence, the capitalization of electrical system was carried out in 2015-16 when these facilities were commissioned and an amount of Rs.53.27 lakh was capitalized in 2015-16. The Petitioner has submitted that these assets are within the original scope of work, but due to various force majeure conditions faced by the Petitioner, the commissioning of such assets were delayed and was finally completed beyond the cut-off date.



62. It is observed that the electrical system for facilities i.e. field hostel, gate house and canteen, is consequential to 'General Civil Works' which were delayed due to land non-availability and the same are for reasons beyond the control of the Petitioner as discussed in paragraph 46 above. In this background, the additional capitalization of Rs.53.27 lakh in 2015-16 pertaining to Electrical system for plant facilities is allowed under Regulation 14(3)(i) of the 2014 Tariff Regulations. In support of the claim for Rs.5.82 lakh during 2016-17, the Petitioner has submitted that the amount corresponds to "Others" but has not mentioned the nature of items capitalized and the necessity of such capitalization. In view of the above, capitalization of Rs.5.82 lakh during 2016-17 is not allowed.

New Schemes in 2015-19

63. The Petitioner has also claimed additional capital expenditure for 'New Schemes' in 2015-19, as follows, which do not form part of the original scope of work of the project and which were taken up after the cut-off date:

	<i>(Rs in lakh)</i>			
Assets/Works	2015-16	2016-17	2017-18	2018-19
Fire Tender with shed	61.53	0.60	14.47	1.30
Fixed Foam system for LDO & HFO	60.74	-	-	-
NABL Accredited Lab	70.52	112.96	5.62	55.18
Online Effluent Monitoring System	13.95	-	-	-
IT & Others	10.97	61.01	125.62	134.55
Augmentation of Track Hopper shed	268.36	-	-	
MAX DCS version up-gradation (XP) Unit-1	67.52	-	438.86	
Construction of road in Ash area	-	80.29	18.15	-
Installation of CAAQMS	-	67.58	-	-
Power supply redundancy and Re-arrangement at BOP area	-	401.59	-	-
Gate house near JNT/security infra/e-security	-	45.07	98.58	257.66
Ash Bagging	-	27.21	-	
Augmentation of Store area	-	31.74	7.58	171.16
Safety related expenditure	-	-	67.09	103.67
Augmentation of Fire detection system	-	-	80.41	-
Drinking Water System	-	-	10.07	13.16
Augmentation of Ash handling system	-	-	700.13	848.07
Fabrication of expansion bellow	-	-	49.69	23.34



Labour colony	-	-	192.79	16.08
Refurbishment of DM Plant Piping and Tank	-	-	31.98	-
Re-heater modification & MTM installation	-	-	160.29	78.23
Up-gradation of protection system	-	-	1.45	47.30
Yard sprinkling and Fire detection system in CHP	-	-	-	18.91
Coal pit run-off mechanized drainage system	-	-	-	321.88
Wind barrier in Ash Pond	-	-	-	29.90
Total additional capitalization	553.59	828.05	2002.78	2120.39
Total additional capitalization claimed as per Form 9A	554.59	829.06	2002.40	2119.96

(a) Fire Tender with shed

64. The Petitioner has claimed additional capitalization of Rs.61.53 lakh in 2015-16, Rs.0.60 lakh in 2016-17, Rs.14.47 lakh in 2017-18 and Rs.1.30 lakh in 2018-19 for Fire tender with shed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that a fire station has been commissioned near the DM plant with intent to cover the entire plant premises in the eventuality of fire and, hence, the expenditure may be approved.

65. The Respondent, KSEBL has submitted that IS 3034 Standards were to be followed by the Petitioner at the time of design of the generating station and should have formed part of the original scope of work. The Respondent has stated that the expenditure does not fall under 'change in law' and, therefore, should not be allowed to be capitalized. In response, the Petitioner has submitted that after overcoming stabilization issues of the units, which was of utmost priority, the Petitioner had initially conducted audit/ review/ mock drills of the existing firefighting systems and their compliance with IS standards/ CEA Regulations, 2010. After review of the firefighting systems, it was observed that with the existing location of Fire Tender, it was not possible to meet the response time of 5 minutes in case of fire at the Coal Handling Plant area. The Petitioner has pointed out that the claim of NTPC towards firefighting system was allowed by the Commission in its order dated 29.7.2016 in



Petition No. 293/GT/2014 (tariff of Talcher STPS, Stage-II for the 2014-19 tariff period) subject to the report of CEA. Accordingly, the Petitioner has submitted that the additional capital expenditure claimed may be allowed.

66. IS:3034 standard which deals with fire stations in Super Thermal Power generating stations having installed capacity exceeding 1000 MW, stipulate the following:

“(a) As per clause no 10.3.5 “Considering the large area of Super Thermal Power Stations (Super Thermal/Power Stations Having Installed Capacity Exceeding 1 000 MW), facilitate quick turn out it may be necessary to deploy the operational manpower at two Fire Stations — a Main Fire Station and a Sub Fire Station, both having up-to-date communication facilities to help easy mobilization in case of emergency.”

“(b) As per clause no 10.4.1 “Power Stations authorized for full time Fire Brigades with major firefighting appliances shall have well designed Fire Stations for housing appliances and firefighting staff. They shall be so located that the response times for fire appliances are kept to a minimum not to exceed 5 minutes.”

67. Thus, as per IS:3034 standard, the response time for reaching a fire prone area should be limited to less than 5 minutes and, if necessary, an additional sub-fire station is required to be made operational. The Petitioner has submitted that during various mock drills conducted (as per the Factories Act, 1948), it took more than five minutes to reach the premises of Coal Handling Plant (CHP) of the Petitioner, which is a critical area to be protected from fire, as it is situated far away from the DM Plant area. Hence, the need was felt by the Petitioner to set up another sub-fire station near CHP area to be compliant with IS:3034 standard in order to avoid any eventuality. Keeping in view that the expenditure incurred was in compliance with the IS:3034 standard (which deals with “Fire Stations in Industrial Buildings’) and as the same is required for the safety and security of the plant, the additional capital expenditure incurred is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.



(b) NABL accredited lab, Online Effluent Monitoring system, Installation of CAAQMS, Yard sprinkling and Fire detection system, Wind barrier in Ash pond and Construction of road in Ash area

68. The Petitioner has claimed additional capitalization of Rs.70.52 lakh in 2015-16, Rs.112.96 lakh in 2016-17, Rs.5.62 lakh in 2017-18 and Rs.55.18 lakh in 2018-19 for NABL accredited lab. It has also claimed additional capitalization of Rs.13.95 lakh for 'Online Effluent monitoring system' in 2015-16. The Petitioner has claimed additional capitalization of Rs.80.29 lakh in 2016-17 and Rs.18.19 lakh in 2017-18 for Construction of road in Ash area and Rs.67.58 lakh for 'Installation of CAAQMS' in 2016-17. Also, additional capital expenditure of Rs.29.90 lakh for 'Wind barrier in Ash pond' and Rs.18.91 lakh for 'Yard sprinkling and Fire detection system' in CHP in 2018-19 has been claimed by the Petitioner. The Petitioner has submitted that these expenditures have been incurred for various schemes which were to be complied by the Petitioner based on the directions of the Jharkhand State Pollution Control Board (JSPCB) and is, therefore, covered under Regulation 14(3)(ii) of the 2014 Tariff Regulations. It has stated that the sitting arrangement of the lab technicians/ department was initially arranged in the adjoining space which was not in compliance with ISO-17025 (NABL) and, accordingly, a separate sitting arrangement was made to comply with the requirements of ISO-17025 for the lab and to comply with the mandate of Jharkhand State Pollution Control Board (JSPCB) and it being a governmental instrumentality, directions issued by it fall within the scope and meaning of Regulation 14(3)(ii) of the 2014 Tariff Regulations i.e. change in law or compliance of existing law. The Respondent, KSEBL has submitted that the expenditure incurred for establishing additional vertical extension of DM plant lack justification on perusal of the 'Consent to Operate' order and the same is not in line with the aforesaid regulation.



69. The matter has been examined. The Petitioner in support of its claim for additional capitalization of the schemes has furnished the correspondences made with JSPCB with regard to the said schemes. The schemes executed by the Petitioner are mainly to comply with the Pollution control norms and for maintaining the environment standards as per directions of JSPCB. As the Petitioner has incurred the aforesaid additional expenditure in respect of these assets/ works for compliance with the directions of JSPCB, the same are allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(c) IT & Others

70. The Petitioner has claimed additional capitalization of Rs.10.97 lakh in 2015-16, Rs. 61.01 lakh in 2016-17, Rs.125.62 lakh in 2017-18 and Rs.134.55 lakh in 2018-19 for IT & others. The Petitioner, in justification of the same, has submitted that it has incurred the expenditure for replacement of IT equipment, namely laptops, computers, servers, printers, etc. and some other 'minor assets' which have been fully depreciated in the books of accounts. The Petitioner has stated that in case the generating station would have completed more than 10 years, the expenses on such items would have been managed from the Compensation Allowance eligible in terms of the 2014 Tariff Regulations. It has stated that the life of IT equipment is much less than 10 years and needs to be replaced within the said period. Therefore, there is no other means available with the Petitioner for meeting expenditure on these assets. The Petitioner has sought additional capitalization of these assets by invoking Regulation 54 of the 2014 Tariff Regulations and has submitted that the expenditure needs to be allowed on the principles enshrined under Section 61 of the Electricity Act, 2003. The Respondent, KSEBL has submitted that the additional capital expenditure falls under R&M expenses and, therefore, the same may be disallowed.



71. The matter has been examined. Admittedly, the additional capital expenditure claimed by the Petitioner is beyond the original scope of work of the project and is after the cut-off date. In this regard, the proviso to Regulation 14(3) of the 2014 Tariff Regulations provides the following:

“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.”

72. In our considered view, the expenditure pertaining to IT equipment is in the nature of ‘minor assets’ which has been incurred after the cut-off date. Hence, in terms of the proviso to Regulation 14(3) of the 2014 Tariff Regulations, the additional capitalization of the expenditure claimed is not allowed.

(d) Fixed foam system for LDO & HFO

73. The Petitioner has claimed additional capitalization of Rs.60.74 lakh in 2015-16 for ‘Fixed foam system for LDO and HFO’ under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner has submitted that Foam flooding system at HFO and LDO Tank is required as per clause no 5.3.5.2 of IS 3034 standards, which stipulate as follows:

“5.3.5.2 The oil storage tanks should also have fixed foam fire extinguishing system in conformity with IS 12835 (Part 1): 1989.”

74. The Petitioner has referred to IS 3034:1993 and IS 12835 (Part 1): 1989 and has submitted that the additional expenditure incurred is for compliance with the provisions of the said IS standards. Though these IS standards were in place at the time of conceptualization of the generating station, since the additional capitalization is for compliance with the existing law, we allow the additional capitalization of Rs. 60.74 lakh for ‘Fixed Foam system for LDO and HFO’ in 2015-16 under Regulation 14(3)(ii) of the 2014 Tariff Regulations.



(e) Augmentation of Track Hopper shed

75. The Petitioner has claimed additional capitalization of Rs.268.36 lakh in 2015-16 towards 'Augmentation of track hopper shed'. In justification of the same, the Petitioner has submitted that originally, Track hopper was designed for direct unloading of coal from BOBR (Bogie Open Bottom Rapid discharge Railway Wagon) into track hopper. It has submitted that the track hopper shed was erected in 2012 with dimensions as per BOBR unloading requirements, but in the absence of rail connectivity, coal is transported through road by Hyva (a vehicle by Tata Motors) and is unloaded at coal bed/ ramp area or track hopper as per need and, thereafter, excavators/ bulldozers push the coal into track hopper. The Petitioner has stated that continuous movement of heavy vehicles for feeding coal into track hopper, coupled with impact of large size stones in coal had considerably damaged the structure of the Track hopper, which endangered the safety of personnel working there. It has submitted that additional capital expenditure under this scheme was required to be incurred due to unforeseen circumstances beyond the control of the Petitioner and could not have been anticipated or avoided, through prudent utility practices. Accordingly, the Petitioner has prayed that the Commission may allow the additional capital expenditure under this scheme, in exercise of the power under Regulation 54 (Power to relax) read with Regulation 3(25) and Regulation 8(3) of the 2014 Tariff Regulations. Alternatively, the Petitioner has submitted that the said expenditure is covered under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

76. The matter has been examined. Admittedly, the additional capital expenditure claimed by the Petitioner is beyond the original scope of work of the project and is after the cut-off date. The Petitioner's submission that the additional capitalization incurred is on account of 'Force Majeure' events and the same may be allowed in



exercise of the power to relax is not acceptable, as the submissions made by the Petitioner do not demonstrate the existence of any 'force majeure' events. Alternatively, the prayer of the Petitioner to allow the said claim under Regulation 14(3)(iii) of the 2014 Tariff Regulations is also not acceptable, as the Petitioner has not furnished any documentary evidence indicating that the expenditure has been incurred for higher security or safety of plant as advised or based on directions of the Appropriate Governmental agencies or Statutory authorities responsible for national/ internal security. In view of this, the additional capitalization claimed by the Petitioner under this head is not allowed.

(f) MAX DCS Version up-gradation (XP) Unit-1 (New schemes required on account of obsolescence)

77. The Petitioner has claimed additional capitalization of Rs.67.52 lakh in 2015-16 and Rs.438.86 lakh in 2017-18 for 'MAX DCS version Up-gradation (XP) Unit-1' in exercise of the power to relax under Regulation 54 of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted the following:

(a) Digital Control System (DCS) is the automated intelligence of any thermal power generating station. Windows XP operating system was the most popular and reliable Windows platform provided by all leading industrial automation companies for their control system. However, from 8.4.2014, Microsoft has completely withdrawn the support for Windows XP Operating System. With end of support by Microsoft on Windows XP operating system, it stopped developing Security Patches for Windows XP, non-security hot fixes, online technical content updates and telephone support. Hence, system was more vulnerable for malware attack and had become out-dated.

(b) The Petitioner managed the system with existing inventories and support from BHEL till mid of 2016. However, after mid of 2016, M/s BHEL expressed its inability to provide further support and recommended for complete up-gradation of existing DCS to higher version of Windows Operating System with upgraded version of MAX DNA DCS for Maithon Units to ensure services and necessary spares. Accordingly, MAX DCS up-gradation for Unit-1 was taken up in 2017-18.

78. The Respondent, KSEBL has submitted that the additional capital expenditure incurred is in the nature of R&M expenses and, hence, may not be allowed. In response, the Petitioner has submitted that the expenditure has been incurred on



account of obsolescence and force majeure conditions which was not within the control of the Petitioner. It has stated that though Microsoft had withdrawn its support for Windows XP Operating System on 8.4.2014, the Petitioner with all its efforts and existing inventory managed to maintain the system till 2016-17, but had to undertake such replacements when M/s BHEL stopped extending its support after mid of 2016 and strongly recommended to upgrade to higher versions. The Petitioner has stated that the same could not have been avoided and due to such uncontrollable factors, it had to incur a one-time expenditure towards such up-gradation, and is in no way a recurring expenditure that can be booked under R&M expenses.

79. The matter has been examined. The Petitioner has submitted that the Digital Control System (DCS) has become obsolete as Microsoft had completely withdrawn its support for Windows XP Operating System. Max DNA version 6.x.x on Windows 7 was envisaged to replace the earlier version i.e. Max DNA version 4.x.x on Windows XP. The Petitioner has furnished the recommendations of OEM (M/s BHEL) confirming that further sustenance of the system was not possible. Considering the submissions of the Petitioner and the documents furnished and keeping in view that the additional expenditure was incurred by the Petitioner under circumstances which were beyond its control (on account of obsolescence of Windows XP for DCS), the additional capital expenditure claimed is allowed, in relaxation of Regulation 14(3)(vii) of the 2014 Tariff Regulations.

(g) Gate House Near JNT/ Security infra/ E-security

80. The Petitioner has claimed additional capital expenditure of Rs.45.07 lakh in 2016-17, Rs.98.58 lakh in 2017-18 and Rs.257.66 lakh in 2018-19 under Regulation 54 (Power to relax) read with Regulation 14(3)(iii) of the 2014 Tariff Regulations for construction of gate house near JNT equipped with turnstile gate and strengthening



of e-Security system for main gate, labour gate and the plant premises. In justification of the said claim, the Petitioner has submitted that these works were necessitated on account of increasing security incidents due to local agitations, strikes, dharna and increasing instances of theft etc.. The Petitioner has also submitted that the turnstile gates have dual authentication with access card as the first and biometric as the other. It has further stated that Boom barriers, one for entry road and one for exit road have been constructed and also RFID system has been installed for automated gate operation.

81. The Respondent, KSEBL has submitted that expenditure claimed is covered under the security expenses allowed to the Petitioner, over and above the normative O&M expenses. In response, the Petitioner has submitted that the plant is spread over 1116 acres of land and is situated in a region having less employment and is a stronghold of Maoists, which poses a high security threat to the installations and workforce of the plant. It has further submitted that since inception, it is continuously facing a lot of law and order problems like agitation, gate jams, trespassing, thefts by displaced persons, supported by political outfits and such facts had been observed by the Intelligence Bureau, GOI in its report dated 10.1.2019. The Petitioner has added that due to delay in the commissioning of Railway project, owing to Force Majeure conditions, coal is transported through trucks (about 1200-1600 per day) and the security staff had to oversee all these along with patrolling and monitoring which was difficult for them and was prone to human error, due to fatigue.

82. The matter has been considered. Admittedly, the additional capital expenditures claimed by the Petitioner is beyond the original scope of work of the project and is after the cut-off date. The Petitioner's submission that the additional capitalization has been incurred is on account of Force Majeure events and the



same may be allowed in exercise of the power to relax is not acceptable, as the submissions made by the Petitioner do not demonstrate the existence of any force majeure events. Alternatively, the prayer of the Petitioner to allow the said claim under Regulation 14(3)(iii) of the 2014 Tariff Regulations is also not acceptable, as the Petitioner has not furnished any documentary evidence indicating that the expenditure incurred is for higher security or safety of plant as advised or is based on the directions of the Appropriate Governmental agencies or Statutory authorities responsible for national/ internal security. In view of this, the additional capitalization claimed by the Petitioner under this head is not allowed.

(h) Power Supply redundancy and re-arrangement at BOP area and Augmentation of Store area

83. The Petitioner has claimed additional capital expenditure of Rs.401.59 lakh in 2016-17 for 'Power Supply redundancy and re-arrangement at BOP area' and Rs.31.74 lakh in 2016-17, Rs.7.58 lakh in 2017-18 and Rs.171.16 lakh in 2018-19 towards 'Augmentation of Store area' under Regulation 3(25) read with Regulation 54 of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted the following:

(i) Power Supply Redundancy and Re-arrangement at BOP area: Frequent tripping of 11 kV CPS overhead line due to breaking of insulators and other overhead line components due to storm and lightning were leading to shutdown of essential load. Further, underground Cable fault of the single source was leading to shutdown of supply of the vital load along approach road for a longer time as it requires considerable time locating and repairing the fault. Moreover, frequent disruption of lighting load and supply of Gate house was becoming major concern of safety and security of the persons and the plant. It was, therefore, decided to form a 6.6 kV Ring Mains Unit by sourcing of 2 numbers of 6.6 kV outgoing feeders from existing 6.6 kV ER #1 switchboard to form a 6.6 kV network with low cost Compact Sub Stations at different load centres to feed such critical loads.

(ii) Augmentation of Store area: In view of the increased Inventory levels in volume and high value spares and to avoid damage of the equipment due to bad weather/ temperature, the need for a sufficient and proper storage facility,



both open and covered, equipped with additional racking/ handling infrastructure was felt. Accordingly, the Petitioner has undertaken augmentation of the store area which broadly includes (i) Concreting and securitization of additional space admeasuring 200 m x 100 m for the purpose of storage of material along with road and pathways, (ii) Development of shed of specification 50 m x 100 m in the open yard of the existing store and (iii) Installation of heavy duty racks and procurement of material handling machines like forklift, crane etc.

84. The Respondent, KSEBL has submitted that expenditure incurred is as a result of poor planning which is attributable to the Petitioner and, therefore, may not be allowed and cannot also be classified as a force majeure event. In response, the Petitioner has submitted that existing overhead line of 11 kV installed for the purpose of construction supply was being utilized for supplying power to some of the essential load like gate house complex, field hostel, site office, etc. It has stated that with passage of time, tripping of these overhead lines had increased because of failures of insulators, breaking of the conductor, damage on account of the movement of coal trucks, which was initially not envisaged and was beyond the control of the Petitioner. Accordingly, the Petitioner has submitted that the expenditure may be allowed in exercise of the power under Regulation 54 or, alternatively, under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

85. The submissions have been considered. The Petitioner's submission that the additional capitalization incurred is on account of 'Force Majeure' events and, hence, the same may be allowed in exercise of the power to relax is not acceptable, as the submissions made by the Petitioner do not indicate the existence of any force majeure events. In our view, the works executed by the Petitioner are only an extension/ rearrangement of the existing system in the generating station. Alternatively, the prayer of the Petitioner to allow the said claim under Regulation 14(3)(iii) of the 2014 Tariff Regulations is also not acceptable, as the Petitioner has



not furnished any documentary evidence indicating that the expenditure incurred is for higher security or safety of plant as advised or is based on the directions of the Appropriate Governmental agencies or Statutory authorities responsible for national/ internal security. In view of this, the additional capitalization claimed by the Petitioner under this head is not allowed.

(i) Ash Bagging system

86. The Petitioner has claimed additional capital expenditure of Rs.27.21 lakh in 2016-17 for 'Ash Bagging system' under Regulation 3(25) read with Regulation 8(3) and Regulation 54 of the 2014 Tariff Regulations. The Petitioner has submitted that 'Ash bagging system' has been installed to facilitate dry fly ash to be packed in the bags directly from silo discharge points and, thereafter, dry fly ash filled in bags are transported through rail/ trucks, for onward transportation and utilization. It has submitted that additional capital expenditure of Rs.27.21 lakh has been incurred in 2016-17 for installation of 'Ash bagging system' to optimally utilize the fly ash and was in compliance of with the directions of JSPCB vide notice dated 17.5.2013. Accordingly, it has submitted that the additional capitalization may be allowed under Regulations 14(3)(ii) and 14(3)(iii) read with Regulation 54 of the 2014 Tariff Regulations.

87. The matter has been considered. The notice dated 17.5.2013 of JSPCB indicates that the Petitioner is required to comply with the direction of the Board regarding usage of 100% fly ash. As the additional expenditure incurred was in compliance with the directions of JSPCB, which is a statutory authority, we allow the additional capitalization claimed under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

(j) Up-gradation of RTU/Protection system



88. The Petitioner has claimed additional capitalization of Rs.1.45 lakh in 2017-18 and Rs.47.30 lakh in 2018-19 towards 'Up-gradation of RTU/protection system' under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted the following:

“(a) That the matter for Upgradation/replacement of old Remote Terminal Unit (RTU) in Eastern Region for reporting of old RTU/Substation Automation System (SAS) to back up control center over IEC 60870-5-104 has been discussed in a special Project review meeting held on 14.2.2017 at Eastern Regional Power Committee (ERPC), 35th TCC/ERPC meeting held on 24th / 25th February 2017 and also in 19th SCADA O&M meeting held on 7.4.2017. As advised by ERPC in 35th TCC/ERPC meeting, detailed report has been finalized and approved in 36th TCC/ERPC board meeting held on 13th/ 14th September 2017 at Bhubaneswar. In view of above direction of ERLDC/ERPC, the Petitioner was mandated to upgrade the RTU system and seek additional license from OEM for enabling existing RTUs for reporting over IEC 104 protocol to Main as well as back-up Control Centre of ERLDC. Therefore, the Petitioner prays to the Commission to consider the circumstances as under compliance of existing law and allow capitalization under this head. The expenditure incurred therefore squarely falls within the scope of Regulation 14 (3)(ii) of 2014 Tariff Regulations.”

89. Since the total additional capitalization of Rs.48.75 lakh (Rs.1.45 lakh and Rs.47.30 lakh) for up-gradation of RTU or protection system has been based on discussions in various ERPC meetings and has been incurred by the Petitioner in compliance with the mandate of ERLDC/ERPC towards safety features of protection system, we allow the same under Regulation 14 (3)(ii) of 2014 Tariff Regulations.

(k) Safety related expenditure

90. The Petitioner has claimed additional capitalization of Rs.67.09 lakh in 2017-18 and Rs.103.67 lakh in 2018-19 for 'Safety related expenditure' (i.e. scaffolding for Boiler, Insulated sky lift, construction of high-rise maintenance platform) under Regulations 14(3)(iii) of 2014 Tariff Regulations. Regulation 14(3)(iii) of the 2014 Regulations provides for admissibility of expenditure for higher security and safety, based on the advice of the Appropriate Government agency or statutory authorities responsible for national/ internal security. As the Petitioner has not demonstrated that the additional expenditure claimed is based on advice or direction of any



Governmental agency or statutory authorities, the additional capitalization of the same is not allowed.

(l) Coal Pit Run-off mechanised Drainage system

91. The Petitioner has claimed additional capitalisation of Rs.321.88 lakh in 2018-19 towards Coal Pit Run-off mechanised Drainage system, under Regulation 3(25) read with Regulation 54 of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted the following:

(i) *The three runoff pits near Stacker Reclaimer, track hopper and crusher house are provided to store internal drainage. Any spill over from these pits are stored in another runoff pit located near main entrance gate on the western side of the Plant. Topography of the northern area outside and near the plant is such that runoff of this area enters the plant campus, travels around 200 m inside plant and thereupon goes outside the plant through western side of the Plant. During heavy rainy seasons, such storm water enters the plant coal handling area carrying coal dust with it and gets mixed with the runoff pit near gate. In an event of spill over due to flooding of pit, the outflow of this pit crosses the Nirsa-Jamtara road through a culvert and finds its way to Rani Talab due to natural slope of the area. The accumulation of the runoff water was also causing failure of the wall. Many villagers started agitation on the belief that the Petitioner is discharging contaminated process water from the plant to the outside environment. Letter from village community leader to the Petitioner complaining regarding discharge of contaminated water (which actually is rainwater) is annexed;*

(ii) *Based on the experience of flooding of the storm water drain with the coal handling area runoff water during the monsoon season, the Petitioner reviewed the existing drains to arrive at a long-term solution to avoid flooding under all rainfall conditions. It was, therefore, decided that the storm water drains from outside plant boundary be diverted along the northern boundary preventing mixing with the internal drainage water or flooding the pit located near main entrance gate and ultimately to be discharged into the culvert on Nirsa-Jamtara road beyond the boundary wall. This way the excess water from outside the plant boundary will not flood the run-off pit 2 near main gate and only clean water would be diverted outside the plant, which shall address the concern raised by villagers as stated above. Accordingly, the scheme was conceptualized and proper drainage system was constructed for its natural flow without any contamination outside the plant. However, the construction work beyond the Petitioner's boundary was forcefully stopped by the local community and their leaders as they were still of the belief that diverted water would be/may be contaminated, through an agitation on 18.6.2018 disrupting plant operation and supply of coal. A True Copy of newspaper cutting in this regard is annexed;*

(iii) *Though all the efforts have been made by the Petitioner to explain the local community leaders, but the Petitioner was not permitted to carry out the work of extending the drainage system into the culvert on Nirsa-Jamtara Road. Accordingly, the Petitioner vide its Letter dated 17.8.2018 apprised Sub-Divisional Officer (SDO) Dhanbad about the Scheme undertaken for addressing the concern raised by neighbouring community, however, due to agitation by the community leaders on 18.6.2018 the same was stopped. In view of above developments, it was, therefore, further decided to have alternative disposal methodology for the coal area runoff water during the monsoon season. Under this Project, it has been decided to divert the*



excess water into Ash Pond through pumping and piping arrangement and containing the coal dust mixed run-off water within Coal Storage area;

(iv) Pursuant to the above, the Petitioner had to mandatorily undertake following works addressing the concerns of villagers for the reasons beyond the control of itself as under:

(a) Construction of the drainage system for natural flow of storm water entering through northern area near the plant and preventing it from mixing with the contaminated water;

(b) To divert Coal run off disposal into Ash pond (during monsoon season) through a pumping and piping arrangement;

(c) To contain the coal dust mixed run off water within coal storage area.

92. The Petitioner has submitted that the additional capital expenditure claimed was incurred due to circumstances, which were unforeseen and beyond the control of the Petitioner and the same was neither anticipated nor could have been avoided through any prudent utility practice. Accordingly, the Petitioner has prayed that the Commission may allow the additional capital expenditure under this scheme in exercise of the power under Regulation 54 of the 2014 Tariff Regulations. The Petitioner has also submitted that in addition to the additional expenditure incurred for 2018-19 as above, an expenditure of Rs.400 lakh for balance work is envisaged to be taken up during 2019-20.

93. The Respondent, KSEBL has submitted that the expenditure incurred by the Petitioner is due to poor planning and is, therefore, attributable to the Petitioner. It has also stated that claim is not in line with provisions of the 2014 Tariff Regulations and is not on account of any force majeure event. The Petitioner in its rejoinder has submitted that the storm water used to mix with coal dust and run-off pit near the gate and in event of flooding of the pit, the outflow of this used to flow in the Rani Talab due to natural slope of the area leading to widespread resistance from the villagers along with their political leaders. Accordingly, the Petitioner has submitted



that due to unforeseen circumstances, the expenditure incurred may be allowed in terms of Regulation 54 of the 2014 Tariff Regulations.

94. The matter has been examined. It is observed from the submissions and the documents enclosed that the Petitioner was required to undertake the construction of the drainage system, in order to address the concerns of the neighbouring community as the contaminated storm water from the plant area during monsoon season was overflowing to the natural reservoir (Rani Talab) located in a nearby village. The correspondence made with the community representatives, Sub-Divisional Officer (“SDO”) Dhanbad and newspapers cuttings furnished by the Petitioner indicate that the expenditure incurred was necessary due to unforeseen conditions, which could not be apprehended during the construction stage of the plant. We note that Regulation 3(25) of the 2014 Tariff Regulations defines ‘Force Majeure’ conditions which prevent the timely completion of the project and as such, the expenditure is not covered under Regulation 3(25) as the plant is in operational stage. However, considering the fact that the said expenditure was necessitated due to unforeseen circumstances, we allow the additional capitalisation of Rs 321.88 lakh under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(m) Augmentation of Ash handling system

95. The Petitioner has claimed additional capitalisation of Rs.700.13 lakh in 2017-18 and Rs.848.07 lakh in 2018-19 towards ‘Augmentation of Ash handling system’ under Regulation 3(25) read with Regulation 54 of the 2014 Tariff Regulations. The Petitioner has also submitted that the additional expenditure claimed is covered within the scope of Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner has submitted that the additional capitalization claimed is beyond the original scope of work of the project and has been incurred due to “force majeure” events which



were beyond the control of the Petitioner. In justification of the same, the Petitioner has submitted the following:

- a) The Petitioner has been facing acute operational and maintenance issues in its 'Ash handling system', primarily on account of combined effect of (i) significantly higher volume of ash generated than design capacity (ii) higher ash particle size and bulk density compared to design and (iii) Lower GCV leading to higher quantity of coal consumption and in turn increasing the effect of (i) and (ii) above.
- b) The problems are mainly attributable to the poor quality of the coal received from various sources of Central Coalfield Limited and its subsidiaries. The coal received at the plant contains much higher ash than anticipated since its inception.
- c) High quantity and coarser quality of ash posed pressure on the existing ash disposal system in proper handling of both fly ash and bottom ash leading to frequent leakages in ash conveying pipelines, thereby causing higher dust in environment and faster filling of limited capacity ash pond. In fact, there were specific directions from JSPCB for reduction of fugitive dust around ash pond and fly ash silo area in their letter dated 5.07.2016.

96. In view of the above submissions and since the additional capital expenditure incurred is based on the directions of JSPCB vide its letter dated 5.7.2016, the additional capital expenditure claimed is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(n) Drinking Water Facility

97. The Petitioner has claimed additional capitalization of Rs.10.07 lakh in 2017-18 and Rs.13.16 lakh in 2018-19 towards 'Drinking water facility' under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that Chapter III Section 41(d) of the Bihar Factories Rules, 1950 read with the Factories Act, 1948, as adopted by the State of Jharkhand, requires that 'the number of water centres to be provided shall be one 'centre' for every 150 persons employed at any one time in the factory'. According to this Rule, the number of drinking water centre should be one, for every 150 persons employed at any given time in the factory. The Petitioner has submitted that since many of the worker's



areas are widespread in the generating station, the number of workers in high concentration areas were more than '150 per centre' unless the workers travel to farther water centres. Therefore, the Petitioner has submitted that in order to reduce the overall travel time and in order to comply with the said Rule, it was decided to add drinking water facilities in three additional locations of the plant area viz., CHP area, Ash pond area and Coal weighbridge, which was concentrated with maximum number of workers. According to the Petitioner, since the additional expenditure incurred was in compliance of an existing law, the additional expenditure may be allowed to be capitalized in terms of Regulation 14(3)(ii) of the 2014 Tariff Regulations.

98. In consideration of the submissions of the Petitioner and keeping in view that the said additional expenditure incurred is for compliance with the provisions of the existing law i.e. the Bihar Factory Rules, 1950, we allow the additional capitalization claimed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

(o) Other Schemes

99. The Petitioner has also claimed additional capitalization of Rs.49.69 lakh in 2017-18 and Rs.23.34 lakh in 2018-19 for Fabrication of expansion bellow, Rs.192.79 lakh in 2017-18 and Rs.16.08 lakh in 2018-19 for Labour Colony, Rs.160.29 lakh in 2017-18 and Rs.78.23 lakh in 2018-19 for Re-heater Modification & MTM installation, Rs.80.41 lakh in 2017-18 for 'Augmentation of Fire detection system' and Rs.31.98 lakh in 2017-18 for 'Refurbishment of DM Plant Piping and Tank'. The Petitioner has claimed additional capitalization of the expenditure incurred on the ground of force majeure events and has accordingly prayed that the claim may be allowed under Regulation 3(25) read with Regulation 54 of the 2014 Tariff Regulations.



100. The matter has been examined. Admittedly, the claim of the Petitioner for additional capital expenditure is in respect of the assets/ works which do not form part of the original scope of work of the project and is after the cut-off date. It is observed that the works executed by the Petitioner are related to extension/ re-arrangement/ replacement of the existing systems in the generating station. The Petitioner has also not justified the nature of the 'force majeure' events which necessitated the additional expenditure being incurred on these assets/ works. In view of this, we find no reason to exercise the power to relax the provisions of the 2014 Tariff Regulations. Accordingly, the additional capital expenditure claimed under this head is not allowed.

Additional Capital Expenditure allowed

101. In view of the above discussions, the actual additional capital expenditure allowed for the 2014-19 tariff period is as under:

<i>(Rs. in lakh)</i>						
Sl. No.	Package Name	2014-15	2015-16	2016-17	2017-18	2018-19
1	BTG	730.69	777.30	0.00	0.00	0.00
2	Cost of Land and Site	21142.23	69.98	0.40	0.00	2112.86
3	General Civil Works	10577.92	791.99	184.39	154.47	147.49
4	Plant Water System	252.36	0.00	0.00	0.00	0.00
5	Ash Handling System	48.65	26.23	0.00	0.00	0.00
6	Coal Handling System	1042.53	282.72	0.00	0.00	0.00
7	Balance of Plant	18.21	445.57	0.00	0.00	0.00
8	Township & Colony	57.12	43.38	0.00	0.00	0.00
9	Pre-Operative expenses	207.87	0.00	0.00	0.00	0.00
10	IT system for Software & Hardware	457.52	0.00	0.00	0.00	0.00
11	RO system	0.00	7798.20	(-) 28.04	57.38	0.00
12	Fire Tender with shed	0.00	61.53	0.60	14.47	1.30
13	Fixed Foam System for LDO & HFO	0.00	60.74	0.00	0.00	0.00
14	Construction of Road in Ash area	0.00	0.00	80.29	18.15	0.00
15	NABL Accredited Lab	0.00	70.52	112.96	5.62	55.18
16	Yard Sprinkling & Fire detection system in CHP	0.00	0.00	0.00	0.00	18.91
17	Up-gradation of Protection System	0.00	0.00	0.00	1.45	47.30



Sl. No.	Package Name	2014-15	2015-16	2016-17	2017-18	2018-19
18	Wind barrier in Ash Pond	0.00	0.00	0.00	0.00	29.90
19	Installation of CAAQMS	0.00	0.00	67.58	0.00	0.00
20	Online effluent monitoring system	0.00	13.95	0.00	0.00	0.00
21	Augmentation of ash handling system	0.00	0.00	0.00	700.13	848.07
22	Ash bagging system	0.00	0.00	27.21	0.00	0.00
23	MAX DCS Version up-gradation (XP) Unit 1	0.00	67.52	0.00	438.86	0.00
24	Drinking water facility	0.00	0.00	0.00	10.07	13.16
25	Spare GT	0.00	846.76	35.73	0.00	0.00
26	Coal Pit run-off drainage system	0.00	0.00	0.00	0.00	321.88
27	IDC in the above	144.82	349.53	0.00	0.00	0.00
A	Total additional capitalization allowed	34679.91	11705.92	481.12	1400.60	3596.05

102. The Petitioner has included IDC capitalized in books, excluding Railways, in the additional capitalization as per Form 9A. However, the same has been deducted by the Petitioner in Form 1(I) while claiming capital cost for tariff.

103. Accordingly, the net additional capitalization allowed after considering the de-capitalization/ deduction and before adjustment of liabilities and IDC as per books, is as under:

<i>(Rs. in lakh)</i>						
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Total additions allowed	34679.91	11705.92	481.12	1400.60	3596.05
B	Less: De-capitalization allowed	3214.56	131.14	69.61	132.63	81.37
C	Less: De- capitalization not performed in books.	0.00	96.56	192.54	717.48	350.46
D	Less: Cash capitalization towards land	5506.76	0.00	0.00	0.00	0.00
E	Total Deductions	8721.32	227.70	262.15	850.11	431.83
F	Net additional capitalization allowed before adjustment of liabilities and IDC as per books (A-E)	25958.59	11478.22	218.97	550.49	3164.22

104. The net additional capital expenditure allowed after adjustment of un-discharged liabilities is as under:



(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net additional capitalization allowed	25958.59	11478.22	218.97	550.49	3164.22
Less: Un-discharged liabilities (pertaining to additional capitalization allowed)	391.10	71.03	163.06	0.00	0.00
Net additional capitalization allowed on cash basis	25567.49	11407.19	55.91	550.49	3164.22

Normative IDC on excess equity and on actual loan

105. The Petitioner, vide Form-1 of the petition, has claimed the following amounts of normative Interest during Construction (IDC) on excess equity and on actual loan in respect of additional capital expenditure for the 2014-19 tariff period:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Normative IDC on excess equity	62.39	199.52	41.00	192.37	429.04	924.32
Normative IDC on actual loan	2672.02	485.50	69.39	200.82	230.48	3658.21

106. As regards allowance of IDC, Regulation 11 of the 2014 Tariff Regulations provide as below:

“11. Interest during construction (IDC), Incidental Expenditure during Construction (IEDC)

(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 up to SCOD.

(2) In case of additional costs on account of IDC due to delay in achieving the SCOD, the generating company or the transmission licensee as the case may be, shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds:

Provided that if the delay is not attributable to the generating company or the transmission licensee as the case may be, and is due to uncontrollable factors as specified in Regulation 12 of these regulations, IDC may be allowed after due prudence check:

Provided further that only IDC on actual loan may be allowed beyond the SCOD to the extent, the delay is found beyond the control of generating company or the transmission licensee, as the case may be, after due prudence and taking into account prudent phasing of funds.”

Normative IDC on Additional Capitalization



107. The Petitioner has submitted that normative IDC may be allowed in terms of the judgment of APTEL dated 3.10.2019 in Appeal No. 231/2017 (Power links Transmission Limited V CERC & ors). The Petitioner has submitted that the entire expenditure on additional capitalization has been incurred from internal resources/ equity and no actual loan was/is proposed to be taken for such expenditure. Since 70% of such internal funds, which are in excess of 30% normative equity, are treated as normative loan for the purpose of tariff determination under the 2014 and 2019 Tariff Regulations, interest on excess over 30% out of total internal funds before capitalisation needs to be treated as normative IDC and added to cash to arrive at the additional capitalisation for purpose of tariff.

108. It is observed that the Commission in its order dated 20.4.2017 in Petition No. 514/TT/2014 (Powerlinks Transmission Ltd v PGCIL & ors) had disallowed normative IDC on additional capitalisation done through internal resources. Aggrieved by the disallowance of normative IDC, Powerlinks Transmission Ltd. had filed Appeal No. 231 of 2017 before the Appellate Tribunal for Electricity (in short 'APTEL') with the prayer to allow normative IDC on normative loan, considered for funding the additional capitalization for the 2014-19 tariff period. APTEL vide its judgment dated 3.10.2019 held as follows:

“8 (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.”



109. The Petitioner, in the present petition, based on the aforesaid decision of APTEL in Powerlinks case, has computed the normative IDC on 70% of the average funds deployed during the year for the additional capitalization claimed. The Petitioner has furnished the computation of normative IDC as follows:

a) Computation of Capital Works in Progress (CWIP) Schedule during the year:

- i. The Petitioner has first computed the opening and closing amounts of Capital Works In Progress (CWIP) actually incurred in cash (cash CWIP) by subtracting Un-discharged liabilities from CWIP amounts on corresponding dates. Similarly, cash additional capitalization has been simply referred to as additional capitalization for this purpose.
- ii. Since the closing amount of CWIP during a financial year is obtained after subtracting additional capitalisation during the year, CWIP schedule during the year is considered as the sum of CWIP schedule obtained by opening and closing amounts of CWIP and that for additional capitalisation;
- iii. While CWIP schedule obtained by opening and closing amounts of CWIP is assumed to increase or decrease linearly from opening to closing amounts, the CWIP schedule for additional capitalisation is assumed to increase linearly from zero in the beginning to the amount of additional capitalisation in the mid of the year;
- iv. The said assumption is based on the fact that the Commission considers average of opening and closing GFA i.e. additional capitalisation at the mid of the year, for the purposes of computing equity, loan and depreciation. Hence, for capitalisation to take place in mid of the year, entire CWIP for that capitalisation must have been incurred up to mid of the year.

b) Computation of normative IDC on normative loan used in CWIP schedule:

- i. Average CWIP has been obtained as sum of (a) average of opening and closing CWIP for entire year $(\text{opening CWIP} + \text{closing CWIP})/2$ and (b)



average of additional capitalisation up to mid-year $(0 + \text{additional capitalisation}) / 4$.

- ii. The Petitioner has then considered excess equity of CWIP in a financial year as the normative loan during that year and normative IDC has been computed on average normative loan at Weighted Average Rate of Interest on long term loan for that year;
- iii. Therefore, total normative IDC has been computed as sum of IDC on excess equity of average additional capitalisation and IDC on excess equity of average of opening and closing amounts of CWIP.

c) Computation of IDC Capitalized

- i. Since CWIP is assumed to be capitalised in the mid of the year, a part of normative IDC up to mid of the year has been capitalised depending upon the amount of additional capitalisation out of total CWIP in the mid of the year and balance normative IDC during the year is carried forward to the next year:
- ii. For the purpose of capitalisation of IDC, it is assumed that CWIP incurred first would be capitalised first. Hence, once the opening CWIP increases to the value of additional capitalisation during the year, IDC related to this CWIP up to half year is capitalised and balance is carried forward:
- iii. In case, the opening CWIP is more than additional capitalisation during the year, additional capitalisation is done from the opening CWIP and normative IDC to be capitalised for half year would be $70\% \times \text{additional capitalisation} \times 0.5$:

110. The Petitioner has prayed for approval of the above methodology for computation of normative IDC and to include the same in the additional capitalization of various assets capitalized during the 2014-19 period and projected to be capitalized during the 2019-24 period. The Petitioner has also submitted the normative IDC computation and the management certificate on the amounts of CWIP.



111. We have considered the submissions of the Petitioner. It is noticed that the Petitioner has neither submitted the normative IDC, duly certified by Auditors, nor the date of infusion of funds, the corresponding dates of capitalisation, the applicable interest rates etc. and their supporting documents, if any. Hence, in the absence of the aforesaid information, we have worked out the normative IDC based on assumptions as follows:

- a. Infusion of funds has been assumed to be at the beginning of the year of additional capital expenditure incurred;
- b. Date of capitalisation has been assumed to be at the mid of the year; and
- c. Weighted Average Rate of Interest (WAROI) on actual loan of respective years have been applied for calculation of normative IDC of respective years

112. The normative IDC on additional capital expenditure has been worked out by applying WAROI on actual loan of the particular year on the average normative loan for the respective year, applied for half of the year of the time span. Accordingly, the normative IDC on additional capital expenditure is as follows:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
760.89	221.46	9.60	24.59	55.34

Discharge of liabilities

113. The Petitioner has claimed discharge of liabilities for the 2014-19 tariff period in Form 18, as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4589.39	319.17	(-) 107.27	179.21	0.00

114. In compliance to the directions of the Commission vide ROP of the hearing dated 2.6.2020, the Petitioner vide affidavit dated 20.6.2020, has furnished the statement of reconciliation, with regard to un-discharged liabilities for each year and the balance sheet of the respective years duly certified by Auditor.



115. The Petitioner, in Form 1(I) has mentioned the additional capitalization on accrual basis, instead of cash basis. In Form 18 (Liability flow statement) also, the Petitioner has indicated the discharge of liabilities, as net of additions. However, since the additional capitalization is allowed on cash basis, the liabilities included in the additional capital expenditure as per Form 9A, has been deducted from the amounts, on accrual basis. Similarly, the discharge of liabilities (without additions in liabilities) have been worked out on the basis of the information furnished in Form 9A and Form 18 and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening un-discharged liabilities as per Form 1(I) and Form 18	4980.50	391.10	71.03	162.07	0.00
Add: Additions as per Form-9A	391.10	71.03	163.06	0.00	0.00
Less: Closing un-discharged liabilities as per Form 1(I) and Form 18	391.10	71.03	162.07	0.00	0.00
Discharge of liabilities allowed	4980.50	391.10	72.03	162.07	0.00

Capital cost for the 2014-19 tariff period

116. Based on the above, the capital cost allowed for the 2014-19 tariff period is summarized as under.

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	432039.88	463204.76	474874.98	475012.53	475749.68
Add: Net additional capitalisation allowed on cash basis	25567.49	11407.19	55.91	550.49	3164.22
Add: Discharges allowed	4980.50	391.10	72.03	162.07	0.00
Normative IDC allowed	760.89	221.46	9.60	24.59	55.34
Less: IDC Capitalised in Books excluding Railways	144.00	349.53	0.00	0.00	0.00
Closing capital cost	463204.76	474874.98	475012.53	475749.68	478969.24

Debt-Equity Ratio

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

“(1) For a project declared under commercial operation on or after 1.4.2014 the debt equity ratio would be considered as 70:30 as on COD. If the equity actually deployed



is more than 30% of the capital cost equity in excess of 30% shall be treated as normative loan:

Provided that:

(i) where equity actually deployed is less than 30% of the capital cost actual equity shall be considered for determination of tariff:

(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-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 utilization 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

118. Accordingly, the debt-equity ratio of 70:30 has been considered for the purpose of tariff, in terms of Regulation 19 of the 2014 Tariff Regulations.

Additional Tax on Income due to adoption of Indian Accounting Standards (Ind AS)

119. The Petitioner has also claimed additional tax arisen on account of amendments in the Finance Act, 2017 to be recovered separately over and above the annual fixed charges as per the ‘Change in law’ provisions. In this regard, the Petitioner has stated the following:



“..... in addition to existing provisions for computation of book profit, for Ind AS compliant companies on which MAT is applicable, including the Petitioner, the book profit was required to be further increased or decreased in following manner:

(i) By an amount credited or debited to other comprehensive income (“OCI”) in the statement of profit and loss under the head “items that will not be re-classified to profit or loss; and

(ii) By one-fifth of the transition amount for year of convergence i.e. FY 2016-17 and the subsequent four years i.e. FY 2017-21. Transition amount has been defined as the amount or the aggregate of the amounts adjusted in the other equity (excluding capital reserve and securities premium reserve) on the convergence date.

The above enactments/ amendments in the Income Tax Act squarely fall under the ambit of Change in Law as per Regulation 3 (9)(a) and (b) and are required to be factored in the True-up of Annual Fixed Charges for the tariff period FY 2014-19 as per Regulation 8(5)(ii) of CERC Tariff Regulations 2014 being a totally uncontrollable factor and beyond the control of the Petitioner. Similar provisions also exist in CERC Tariff Regulations 2019 and, hence, same relief is available to the Petitioner during the tariff period 2019-24. In case of the Petitioner, MAT has been applicable during FY 2014-19 and is also expected to be applicable during FY 2019-24 and the book profit and tax liability thereon has increased due to the said Change in Law. Thus, the Petitioner is entitled to recovery of Additional Tax payable due to this Change in Law for the applicable FYs 2016-17, 2017-18, 2018-19 in the tariff period FY 2014-19 and for FYs 2019-20 and 2020-21 in the tariff period FY 2019-24. Accordingly, it is humbly submitted to the Hon’ble Commission to kindly consider the following enactments/amendments as Change in Law under the CERC Tariff Regulations 2014:

- a. the notification of Companies (Indian Accounting Standards) Rules, 2015 and
- b. amendment of Section 115JB of the Income tax Act, 1961 under Finance Act, 2017 in order to incorporate provisions w.r.t Ind AS compliant companies

Further, as the basic principle of Change in Law is the principle of restitution i.e. to bring back the Petitioner to same economic position as it would have been had Change in Law not taken place, the Petitioner proposes to recover this additional tax separately over and above the Annual Fixed Charges as per the provisions of the regulations other than Change in Law provisions and not as part of Annual Fixed Charges. This will also avoid unwarranted increase in Interest on Working Capital that are linked to Annual Fixed Charges. However, since this additional tax recovery adds to book profit and attracts further tax on it, the net recovery would not fully compensate the Petitioner for increased tax. Therefore, in order to place the Petitioner back to the same economic position, this additional tax recovery needs to be grossed up by the applicable MAT rate for the relevant year and allowed to be recovered separately from the beneficiaries.”

120. We have examined the matter. As regards the recovery of additional tax liability due to implementation of Ind-AS, it is observed that the 2014 Tariff Regulations provide for tax recovery by way of grossing up of Return on Equity with the effective tax rate or Minimum Alternate Tax (MAT) in case of a generating company or a transmission licensee, as the case may be, paying MAT of the respective financial year. Further, no income, other than generation/ transmission



activities is considered for the purpose of tax recovery. In the present case, ROE is being allowed for grossing up with the MAT rate, as envisaged under the provisions of the 2014 Tariff Regulations. It is further observed that the implementation of Ind-AS has an accounting treatment implication and does not result in income from generation business activity. Accordingly, the prayer of the Petitioner to allow the recovery of additional tax liability on the increased income, due to implementation of Ind-AS is not permitted.

Return on Equity

121. Regulations 24 and 25 of the 2014 Tariff Regulations provide 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 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 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 requirement 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 kilometres.”

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.

Illustration.

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess: Rate of return on equity = $15.50/(1-0.2096) = 19.610\%$

(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.

(b) Estimated Advance Tax for the year on above is Rs 240 crore.

(c) Effective Tax Rate for the year 2014-15 = $\text{Rs } 240 \text{ Crore} / \text{Rs } 1000 \text{ Crore} = 24\%$

(d) Rate of return on equity = $15.50 / (1-0.24) = 20.395\%$

(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."

122. The Commission in its order dated 1.10.2019 in Petition No.152/GT/2015 had allowed the normative equity of Rs.129747.21 lakh as on 31.3.2014. However, as only the capital cost of Rs.432039.88 lakh as on 1.4.2014 has been allowed as against the capital cost of Rs.432490.69 lakh allowed vide Commission's order dated 1.10.2019 in Petition No.152/GT/2015, the opening equity has also been adjusted to Rs.129611.96 lakh for the 2014-19 tariff period. The Petitioner has claimed MAT



rates for the respective financial years for grossing up of ROE and the same has been considered for the purpose of tariff. Accordingly, ROE has been worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional Equity	129611.96	138961.43	142462.50	142503.76	142724.90
Addition due to Additional Capitalization	9349.47	3501.07	41.26	221.15	965.87
Closing Equity	138961.43	142462.50	142503.76	142724.90	143690.77
Average Equity	134286.70	140711.96	142483.13	142614.33	143207.84
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year	20.9605%	21.3416%	21.3416%	21.3416%	21.5488%
Rate of Return on Equity (Pre Tax)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity	26333.62	27727.29	28076.30	28102.15	28295.00

Interest on loan

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

“26. Interest on loan capital:

(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.

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

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

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

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

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

(7) The generating company or the transmission licensee as the case may be shall make every effort to re-finance the loan as long as it results in net savings on interest



and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee as the case may be in the ratio of 2:1.

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

124. The Petitioner has re-financed the long-term loan to reduce the interest burden on the beneficiaries. For the purpose of calculation of interest on normative loan, the Petitioner has considered interest rate of original loan, and not the new rate after refinancing. The Petitioner has submitted that in case of refinancing, the application of Regulation 26(5) of the 2014 Tariff Regulations would require the computation of 'weighted average rate of interest' using the actual loan portfolio/schedule, along with interest rate that would have been applicable for original loan term. In our view, Regulation 26(5) of the 2014 Tariff Regulations provides that the weighted average rate should be calculated on the basis of actual loan portfolio, which implies the consideration of the 'existing loan' portfolio. As such, the applicable rate is the rate after such refinancing of loan. This was decided by the Commission while working out the interest on normative loan in order dated 26.12.2017 in Petition No.152/GT/2015 and subsequently in Commission's order dated 25.4.2019 in Petition No.16/RP/2018 filed by the Petitioner. Accordingly, the weighted average rate of interest (based on the rates as applicable before re-financing) as claimed by the Petitioner, is not allowed. The Petitioner, in compliance with the directions of the Commission vide ROP dated 2.6.2020, has, vide affidavit dated 20.6.2020, submitted revised Form-13, furnishing calculation of weighted average rate of



interest on actual loans at refinanced rates and the same has been considered for computation of interest on normative loan. Accordingly, Interest on loan has been worked out as mentioned below:

i) Since the capital cost of Rs.432039.88 lakh as on 1.4.2014 is allowed as against the capital cost of Rs.432490.69 lakh allowed vide Commission's order dated 1.10.2019 in Petition No. 152/GT/2015, the adjusted gross normative loan amounting to Rs.302427.92 lakh has been considered as on 1.4.2014.

ii) The adjusted cumulative repayment of Rs.47164.35 lakh as on 31.3.2014 as has been considered as on 1.4.2014.

iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs. 255263.57 lakh;

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

v) The depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 period. Further, the repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff;

125. Necessary calculations for interest on loan are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional loan	302427.92	324243.34	332412.49	332508.77	333024.77
Cumulative Repayment of Loan up to previous year	47164.35	69464.84	93120.51	117005.07	140722.28
Net Opening loan	255263.57	254778.50	239291.98	215503.70	192302.49
Addition due to additional capitalisation	21815.42	8169.15	96.28	516.01	2253.69
Repayment of loan during the period	22785.93	23700.34	23949.17	23969.12	24160.20
Less: Repayment adjustment on account of de-capitalization	485.44	44.67	64.61	251.90	148.66
Net Repayment	22300.49	23655.67	23884.56	23717.21	24011.55
Net Closing loan	254778.50	239291.98	215503.70	192302.49	170544.64
Average loan	255021.03	247035.24	227397.84	203903.10	181423.57
Weighted Average Rate of Interest on loan	10.96%	10.46%	9.92%	8.99%	8.79%
Interest on loan	27957.86	25842.46	22561.92	18331.74	15953.23

126. The Petitioner has refinanced the loan which has resulted in substantial benefits to the respondents on account of lower interest rates. The costs associated



with such re-financing shall be borne by the beneficiaries and the benefits of refinancing shall be calculated and shared between the beneficiaries and petitioner in the ratio of 2:1 in terms of Regulations 26(7), 26(8) and 26(9) of the 2014 Tariff Regulations.

Depreciation

127. 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 on 1.4.2014 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 licensee 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.”

128. As regards the weighted average rate of depreciation used for the computation of the depreciation claimed, the Petitioner has submitted that the same has been considered based on the actual depreciation provided in books of accounts. The Petitioner has further submitted that as per accounting policy of the Petitioner, depreciation on fixed assets is provided on *pro rata* basis from the month in which the asset is available for use, on straight line method, at the rate and methodology notified in the 2014 Tariff Regulations, except in case of following assets, based on estimated useful life of the asset:

Asset Class	Rate as notified by Commission	Rate in Books (%)
Land under lease	3.34%	4%
Computer and accessories	15%	16.21%
Motor vehicles	9.50%	19%
Software	15%	Over the useful life or five years, whichever is lower
Assets costing Rs.5000 or less individually and mobile hand sets	5.28%	Fully depreciated in the year of acquisition

129. The Petitioner has submitted that in pursuance of Ind-AS 17 (which is applicable to Petitioner from 2016-17 with comparative period of one year viz. 2015-16), the leasehold land, which was earlier considered as part of the gross block and



thereby depreciated/ amortized, would now be treated as part of 'current assets' and amortized over the license period. In this context, adjustment to this extent is made in the books of accounts. The Petitioner has submitted that though the 2014 Tariff Regulations provide for specific depreciation rate for lease-hold land, consequent upon adoption of Ind-AS by the Petitioner, the treatment of leasehold land has changed in the books of accounts. Therefore, the Petitioner, in the present petition, has claimed depreciation against leasehold land, based on the actual amortization charged in the books of accounts.

130. The matter has been examined. It is observed that the Petitioner has claimed depreciation based on the weighted average rate of depreciation, as per the books of accounts. In terms of Regulation 27(5) of the 2014 Tariff Regulations, the rates specified in Appendix-II to the said regulations, in respect of the assets of the generating station are required to be used for arriving at the weighted average rate of depreciation. Accordingly, the weighted average rate of depreciation as claimed by the Petitioner has not been considered and the rates specified in Appendix-II of the 2014 Tariff Regulations have been considered for the computation of depreciation. Thus, the weighted average rate of depreciation claimed by the Petitioner *vis-à-vis* allowed in terms of said regulations is tabulated below:

	2014-15	2015-16	2016-17	2017-18	2018-19
Weighted Average Rate of Depreciation claimed	5.11%	5.13%	5.11%	5.08%	5.11%
Weighted Average Rate of Depreciation allowed	5.09%	5.05%	5.04%	5.04%	5.06%

131. Accordingly, depreciation allowed for the 2014-19 tariff period is as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block (A)	432039.88	463204.76	474874.98	475012.53	475749.68
Addition due to Additional Capitalisation (B)	31164.88	11670.22	137.54	737.15	3219.56



Closing Gross Block (C)	463204.76	474874.98	475012.53	475749.68	478969.24
Average Gross Block $D=(A+C)/2$	447622.32	469039.87	474943.76	475381.10	477359.46
Value of Freehold Land included in gross block (E)	8635.47	17305.94	17340.93	17341.13	17427.23
Depreciation value $F= (D-E) \times 90\%$	395088.16	406560.54	411842.55	412235.98	413939.00
Remaining depreciable value ($G=F-$ Cumulative Depreciation (as shown under 'M') at the end of previous year)	347923.82	337095.70	318722.04	295230.91	273216.72
No. of completed years at the beginning of the year (H)	2.58	3.58	4.58	5.58	6.58
Balance Useful life at the beginning of the Year (I)	22.42	21.42	20.42	19.42	18.42
Rate of Depreciation (J) as per Annexure-I to this order	5.09%	5.05%	5.04%	5.04%	5.06%
Depreciation (K)	22785.93	23700.34	23949.17	23969.12	24160.20
Cumulative depreciation (at the end of the period) ($L= K +$ Cumulative depreciation at the end of previous year*)	69950.28	93165.18	117069.68	140974.19	164882.48
Less: Depreciation adjustment on account of de-capitalization (M)	485.44	44.67	64.61	251.90	148.66
Cumulative depreciation after adjustment due to de-capitalization (at the end of the period) ($N=L-M$)*	69464.84	93120.51	117005.07	140722.28	164733.83

* Note: The Cumulative Depreciation at the end of 2013-14 is Rs. 47164.35 lakh.

Unrecovered Depreciation on De-capitalisation

132. The Petitioner has submitted that in the events where de-capitalization of assets have to be carried out in the initial years of useful life of assets, there would be significant loan outstanding on account of such assets which will necessarily have to be serviced till end of loan tenure. It has stated that post de-capitalization, since neither depreciation nor interest is available on such assets, the actual loan outstanding for such assets will have to be serviced from revenue allowed for



meeting other expenses. This, according to the Petitioner, leads to financial hardship and under-recovery, as it falls short of the revenue required for meeting expenses which are already approved by the Commission. The Petitioner has also submitted that the circumstances which lead to such shortfall are entirely beyond the control of the Petitioner and for force majeure conditions. The Petitioner has further submitted that as per Ind AS 16, along with de-recognition/ de-capitalization of replaced assets, the Petitioner is required to book the gain or loss arising out of de-recognition in its accounts. The Petitioner has added that while the 2014 Tariff Regulations and the 2019 Tariff Regulations provide for de-capitalization of replaced assets, there is no corresponding regulation for considering the gain or loss due to such replacement for not recovering the normative depreciation @90%. In view of the above, the Petitioner has requested that the Commission may allow the recovery of unrecovered depreciation i.e. allowed depreciation (90% of the Asset value-Depreciation recovered till date of de-capitalization) to compensate for the losses which it may incur in books of accounts, in exercise of the 'Power to Relax' and 'Power to Remove Difficulty' under the 2014 Tariff Regulations. The Petitioner has also proposed to separately recover the losses towards unrecovered depreciation as additional depreciation, over and above the specified norms under the 2014 Tariff Regulations. The claim of the Petitioner for unrecovered depreciation during the 2014-19 tariff period is as under:

(Rs. in lakh)

2015	2016	2017	2018	2019	Total
160.00	137.00	158.00	482.00	213.00	1150.00

133. We have examined the matter. It is observed that the 2014 Tariff Regulations provides for servicing of the funds infused in the admitted capitalised expenditure, by way of allowing ROE and Interest on loan capital as components of the annual fixed charges for the assets put in use. The equity and loan component for this purpose



are determined in accordance with Regulation 19 of the 2014 Tariff Regulations. Thus, the said regulation provides for servicing the debt capital in the form of 'Interest on loan' on the amount of loan arrived at, by applying the debt-equity ratio on the capital cost allowed and not on the 'actual loan' being serviced through tariff. The capital cost has been allowed after necessary adjustment for the decapitalisation of the asset. Apart from deduction in the cumulative depreciation, corresponding cumulative repayment of loan is also brought down. Hence, in case of repayment of loan, instead of the 'actual loan repayment', the depreciation allowed for the corresponding year/ period is considered as repayment of loan and the same is in line with Regulation 26(3) of the 2014 Tariff Regulations, which is extracted below:

"26(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."

134. Accordingly, the prayer of the Petitioner to allow the recovery of unrecovered depreciation (*in respect of assets not in use*) is not allowed as the same is not in conformity with the provisions of the 2014 Tariff Regulations.

O & M Expenses

135. The total O&M expenses claimed by the Petitioner for the 2014-19 tariff period is as under:

	<i>(Rs. in lakh)</i>				
Items / Heads	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses as per Regulation 29(1)(a) of the 2014 Tariff Regulations	16800.00	17860.50	18984.00	20181.00	21451.50
Water charges as per Regulation 29(2) of the 2014 Tariff Regulations	946.18	996.05	993.31	965.52	930.54
Capital spares as per Regulation 29(2)	0.00	0.00	58.34	53.52	10.45
Rental & Conveyance expenses in lieu of 2 nd township	100.35	76.08	57.61	74.98	51.19
Total O&M Expenses	17846.53	18932.63	20093.26	21275.02	22443.68



136. The normative O&M expenses claimed by the Petitioner under Regulation 29(1)(a) of the 2014 Tariff Regulations are the same as allowed vide order dated 26.12.2017 in Petition No.152/GT/2015. Accordingly, the normative O&M expenses claimed by the Petitioner in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations is allowed.

Water Charges

137. Regulation 29(2) of the 2014 Tariff Regulations provides as under:

“29(2) Operation and Maintenance Expenses

(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

138. The Commission, in order dated 26.12.2017 in Petition No. 152/GT/2015, had allowed Water charges under Regulation 29(2) of the 2014 Tariff Regulations, based on the audited actual water charges incurred for 2014-15 as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
946.18	946.18	946.18	946.18	946.18

139. The Petitioner, in this petition, has claimed water charges based on the audited actual water charges for the 2014-19 tariff period, in terms of Regulation 29(1)(b) of the 2014 Tariff Regulations. The Petitioner has furnished the details of actual water consumption, water charge rates and water cess for each year. The water charges claimed are as under:



(Rs. in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
946.18	996.05	993.31	965.52	930.54

140. As stated, the Water charges allowed vide order dated 26.12.2017 in Petition No.152/GT/2015 were based on the water charges incurred for 2014-15 and the same was subject to revision, at the time of truing up of tariff, based on the actual water charges paid by the Petitioner for the 2014-19 tariff period. The Petitioner has claimed water charges, duly audited, based on actual water consumption. Accordingly, on prudence check, the water charges claimed is allowed.

Capital Spares

141. As regards the claim of the Petitioner for 'capital spares' in terms of Regulation 29(2) of the 2014 Tariff Regulations, the Commission, in order dated 26.12.2017 in Petition No.152/GT/2015 had observed that the claim of the Petitioner, if any, would be considered on merits, on prudence check, at the time of truing-up of tariff. The Petitioner, in the present petition, has claimed the following capital spares, based on audited actual capital spares consumed during the 2014-19 tariff period:

(Rs. in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19
Spare Circuit Breaker for MV & LV Switchgear (BTG & main)	0.00	0.00	18.96	0.00	7.18
Spare Motors for (BTG, RWP & AHP)	0.00	0.00	39.38	16.36	0.90
TDBFP Recirculation valve	0.00	0.00	0.00	27.61	2.37
Boiler Tubes	0.00	0.00	0.00	9.55	0.00
Total	0.00	0.00	58.34	53.52	10.45

142. In support of the said claim, the Petitioner has submitted the following:

(a) Spare Circuit Breaker for MV & LV Switch gear (BTG & main)

Spare Circuit Breaker for MV & LV switch gear was needed to be procured for running the plant without any generation loss or to minimize the duration of generation loss in case of any breakdown. Since these circuit breakers have a lead time of delivery, the same is needed to be procured and maintained as capital spares. While procurement of these spares, it was found that GE has stopped manufacturing these circuit breakers, hence, different make compatible circuit breaker was procured as spare. The capital expenditure for Spare Circuit Breaker for



MV & LV Switch gear (BTG & main) may be approved by the Commission, as capital spare in terms of the 2014 Tariff Regulations.

(b) Spare Motors (comprising of 500 KW Motor for Raw Water Pump, 500 KW Motor for Conveying Air Compressor for Ash Handling Plant, 350 KW Motor for Auxiliary Cooling Water pump):

As per existing configuration, 3 number of raw water pump motors, 6 number of conveying air compressor motors for ash evacuation and 4 No of auxiliary cooling water pump motors are in service. These are critical 6.6 KV motors and were not having initial spares. Hence, new spare motors were procured and are used on rotation basis to overhaul present motors in case of any breakdown. For overhauling, these motors are required to be sent to vendor facilities as overhauling within the Plant was not so effective. In view of foregoing, procurement of above motors was carried out. The capital expenditure for these Spare Motors, therefore, may kindly be approved by the Commission as Capital Spare in terms of the 2014 Tariff Regulations.

(c) TDBFP Re-circulation valve

Recirculation Valve (RCV) is an integral part of the Boiler Feed Pump. This is an ON/OFF type Valve and it operates depending on the suction flow of the Boiler Feed Pump. Opening of RCV is very much critical during initial start-up for maintaining minimum flow requirement of BFP and during emergencies to avoid churning and damage of pump internals. After few years, it was observed that the RCVs are passing feed water during shut-off condition (i.e. during normal operation). The rate of passing gradually increased and reached up to 300 TPH in a Unit. Initially, the passing could be controlled by repairing the Valve internals which could sustain only 4-6 months. Repeated damage of Valve Seat, Plug & Stack caused frequent outage of BFP. Meanwhile, matter was also taken up with M/s Dresser India (OEM) for analysis and recommendation. According to manufacturer's analysis, the damage is due to high throttling pressure at the tip of the Valve Seat & Plug for which the existing Diaphragm-type Actuator is not able to shut-off 100% during normal operation of the Units and is thereby causing passing of feed water. M/s Dresser, therefore, suggested for changing the single acting Diaphragm-type Actuator to double acting Piston Actuator. Recommendation of M/s Dresser is annexed. Pursuant to above in FY 18, two RCVs were procured as Capital Spare which were subsequently consumed in Unit 1. Depending on the performance, balance valves including their spares are phased to be procured in FY 20. In view of above constraint, it is humbly prayed Commission to approve the Spare TDBFP Recirculation Valve in terms of the 2014 Tariff Regulations.

(d) Boiler Tubes

It is humbly submitted that some specific portion of pressure parts like bends and joints are exposed to high ash content coal, which had damaged such pressure parts. Such damaged parts require replacement for safety and reliability of the Plant. Accordingly, some spare boiler tubes/pressure parts were procured in 2018 to refurbish the damaged pressure parts of boiler like economiser, super-heater, re-heater etc. It is, therefore, prayed to approve the Spare Boiler Tubes/pressure parts under Regulation 29(2) of the 2014 Tariff Regulations.”

143. In terms of Regulation 29(2) of the 2014 Tariff Regulations, the actual expenses incurred by the Petitioner towards capital spares consumed are admissible as additional O&M expenses. The Petitioner has certified that the capital spares



claimed have not been funded through Compensatory Allowance or Special Allowance in terms of the 2014 Tariff Regulations or has been claimed as part of additional capital expenditure or by consumption of stores and spares for R&M. Moreover, the cost of the capital spares claimed by the Petitioner has been excluded from the 'gross capital cost' under the head 'exclusion' in the additional capitalization of spares. It is pertinent to mention that the term 'capital spares' has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardised practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs.1 (one) lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the petition, has been considered for the purpose of tariff. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Spare Circuit Breaker for MV & LV Switchgear (BTG & main)	0.00	0.00	18.96	0.00	7.18
Spare Motors for (BTG, RWP & AHP)	0.00	0.00	39.38	16.36	0.00
TDBFP Recirculation valve	0.00	0.00	0.00	27.61	2.37
Boiler Tubes*	0.00	0.00	0.00	0.00	0.00
Total before salvage value	0.00	0.00	58.34	43.97	9.55
Less: Salvage value @10%	0.00	0.00	5.83	4.40	0.96
Total capital spares allowed	0.00	0.00	52.51	39.57	8.59



* Expenditure against Boiler tubes has not been considered as the details of boiler tubes including numbers consumed has not been provided. Further, such expenditure is deemed to be covered under normative O&M expenses

144. Accordingly, the total O&M expenses allowed in terms of the 2014 Tariff Regulations are as under:

	<i>(Rs in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M Expenses as per Regulation 29(1)(a) of the 2014 Tariff Regulations	16800.00	17860.50	18984.00	20181.00	21451.50
Water Charges as per Regulation 29(2) of the 2014 Tariff Regulations	946.18	996.05	993.31	965.52	930.54
Capital Spares as per Regulation 29(2) of the 2014 Tariff Regulations	0.00	0.00	52.51	39.57	8.59
Total O&M expenses allowed as per Regulation 29 of the 2014 Tariff Regulations	17746.18	18856.55	20029.82	21186.09	22390.63

Additional O&M expenses

A. In lieu of 2nd Township

145. The Petitioner has claimed the following additional O&M expenses in lieu of 2nd Township:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Rental Charges (a)	123.40	90.88	54.27	74.15	67.52
HRA deduction from employee (b)	78.19	67.34	62.58	65.80	75.11
Conveyance Charges (c)	55.15	52.55	65.92	66.63	58.79
Total - (a-b+c)	100.35	76.08	57.61	74.98	51.19

146. In support of the aforesaid claims, the Petitioner has submitted the following:

(a) MPL had planned to construct the second phase of the Township to accommodate the balance employees after phase I. Due to unavailability of land in the adjoining area of the existing township, the Petitioner made efforts to locate suitable Land in nearby location to facilitate the above purpose. Through letter dated 25.11.2011, it had approached DVC for additional allocation of 30000 m² of land in the plot adjacent to the phase-I of the Township. However, further transfer of land from DVC was restricted by the Circular No. 93/2011-CDN dated 6.4.2011 of the Ministry of Urban Development, GOI, wherein Government undertakings like DVC have been directed to seek prior approval of the Cabinet for any transfer/alienation of Land belonging to the Government. The Petitioner approached the district administration to acquire land of approximately 30 acres. However, the land identified by the district administration for the construction of Phase II of the township is owned by the tribal community and GOJ. Accordingly, it again persuaded the district



administration for obtaining the necessary clearance for acquisition of land from the tribal community and GOJ. For past 8 years the Petitioner is struggling to find suitable land for phase-II of township in and around generating station. Therefore, in view of the non-availability of contiguous litigation free land and recommendation of the Petitioner's Management, the Board of Directors of it, in its 92nd Meeting of held on, 16.3.2019 has approved dropping of the additional capital expenditure in respect of 'Colony and Township' of ₹60.00 crore;

(b) Presently, the employees of the Petitioner are accommodated in Dhanbad and Asansol (approximately 40-50 km from the generating station) in rented accommodation and bus service is provided to employee for conveyance for both normal and shift duties. This has resulted into additional O&M cost which is not part of Normative O&M Expenses. Total cost incurred by the Petitioner in absence of phase II of "Township & Colony" is presented in table below;

(c) Had the Petitioner been able to come-up with the Phase-II of the Township and Colony at the projected capital expenditure of ₹60 crores by 31.3.2014, the total Annual Fixed Charges (AFC) recovery towards Phase-II of the Township in the remaining years of the useful life of the Station would have been ₹223 crore whereas if it pursues the current arrangement for employees as stated above it would require additional O&M expenses towards rent and conveyance of about ₹23.15 crore over the same period resulting into a net savings of ₹199.38 crore for the beneficiaries which shall ultimately rests with them. Therefore, the Petitioner is seeking these Rental and Conveyance Expenses over and above Normative O&M Expenses. Going with existing arrangement and seeking additional O&M expenses in lieu of Phase-II of the township and utilizing savings for other cost overrun is in no way causing harm to the beneficiaries and shall be a fair approach to compensate the costs incurred/to be incurred by the Petitioner. For arriving at savings, AFC has been computed as per 2014 Tariff Regulations and assuming that the additional capital expenditure was capitalized on 31.3.2014. Rent, HRA deduction and conveyance charges have been considered at actual for 2014-15 to 2018-19 and thereafter projected based on average of the previous five years with an annual escalation of 5% thereon until useful life of the generating station. Detailed workings of AFC and additional O&M expenses and net savings on account of this annexed for kind perusal of the Commission;

(d) In view of foregoing, Commission is, therefore, most humbly requested to allow the expenses incurred by the Petitioner towards the Rental expenses adjusted with HRA and conveyance charges at actuals for the period 2014-15 to 2018-19 separately as additional O&M Expenses over and above the Normative O&M expenses and thereafter for the ensuing years on the projected basis subject to truing up of tariff, based on actuals.

147. The Respondent, KSEBL has submitted that since the normative O&M expenses is allowed for the project, the claim for additional O&M expenses in lieu of 2nd Township is not in line with the 2014 Tariff Regulations and may be rejected. In response, the Petitioner has submitted that it had to drop the plan for 2nd township due to 'force majeure' conditions and was constrained to accommodate its employees in nearby cities and arrange transport facilities to office. It has also



submitted that since such expenditure is not required to be incurred with staff being accommodated in Township/ Colony as in other projects, this expenditure is not covered under the normative O&M expenses. Accordingly, the Petitioner has claimed such expenses over and above the normative O&M expenses allowed to the generating station. The Petitioner has also contended that the 2014 Tariff Regulations do not prohibit such claim of the Petitioner, arising due to force majeure conditions/ uncontrollable factors in terms of Regulation 3(25) read with Regulation 8(3) and Regulation 54 of the 2014 Tariff Regulations.

148. It is noticed that the Petitioner has claimed additional O&M expenses due to additional arrangement made for accommodation of its employees and their conveyance, in lieu of the difficulty in constructing the township due to non-availability of land. According to the Petitioner, this has resulted in savings in capital expenditure and increase in the O&M expenses, as there will be no additional burden on the consumer, as the claim of additional O&M expenses is against the savings of tariff due to non-capitalization of additional township. The Petitioner has stated that due to non-availability of the land, the idea of Township colony was dropped and thereby the projected capital expenditure of Rs.60 crore was not incurred. As per submissions of the Petitioner, the total annual fixed charges recovery towards the 2nd Township, in the remaining years of the useful life of the generating station, would have been Rs.223 crore, whereas, in terms of the existing arrangement for the employees, it would require additional O&M expenses towards Rent and Conveyance of about Rs.23.15 crore over the same period, resulting into a net savings of Rs.199.38 crore for the beneficiaries.

149. The admissibility of the claim of the Petitioner is examined in the light of the provisions of the 2014 Tariff Regulations. The O&M expense norms for the 2014



tariff period has been duly notified taking into consideration the actual O&M expenses incurred by the generating stations for the period 2008-2013 and after extensive stakeholder consultations. As the said O&M expense norms adequately captures all components as stated by the Petitioner, the prayer of the Petitioner for additional O&M expenses, if allowed, under this head, would, in our view, result in re-opening of the O&M expense norms at this stage. For these reasons, the prayer of the Petitioner for additional O&M expenses in lieu of 2nd Township is not allowed.

B. Ash Disposal expenses

150. The Commission in its order dated 25.4.2019 in Review Petition No. 16/RP/2018 (in Petition No. 152/GT/2015) had allowed the projected 'Ash disposal' expenses for the 2014-19 tariff period as under:

<i>(Rs. in crore)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
60.98	62.70	66.50	70.72	0.00	260.90

151. The Petitioner, in the present petition, has claimed audited actual 'Ash disposal' expenses for the 2014-19 tariff period as under:

<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
6098.44	3791.36	3647.73	3320.87	3340.46	20198.86

152. The Respondent, KSEBL has submitted that the claim towards ash disposal expenses over and above the normative O&M expenses is not in line with the 2014 Tariff Regulations and, therefore, the claim may be disallowed. The Petitioner in its rejoinder has submitted that issue is no more *res integra* as the Ash disposal expenses over and above the normative O&M expenses had already been approved by the Commission vide its order dated 26.12.2017 in Petition No. 152/GT/2015 and by order dated 25.4.2019 in Petition No. 16/RP/2018 read with corrigendum order dated 25.5.2019 subject to truing-up. The Petitioner has also stated that Ash



disposal expenses are statutory in nature and needs to be incurred on a regular basis due to the limited capacity of ash pond and in compliance with the MOEF&CC Notification which mandate 100% ash utilization.

153. The submissions have been considered. The Commission in its order dated 25.4.2019 in Review Petition No.16/RP/2018 (in Petition No.152/GT/2015) had allowed the 'Ash disposal' expenses, based on actuals of the year 2014-15 and projected expenses for the period 2015-19, subject to revision, based on the actual Ash disposal expenses incurred by the Petitioner, at the time of truing up of tariff. The Petitioner has claimed actual expenses towards ash disposal, after adjustment of the revenue earned and has submitted the break-up details, duly certified by Auditor. Accordingly, the audited net ash disposal expenses, after adjustment of the revenue earned, as claimed by the Petitioner is allowed as under:

<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
6098.44	3791.36	3647.73	3320.87	3340.46	20198.86

154. Considering the fact that reimbursement of the ash disposal expenses is being allowed based on special circumstances (limited ash pond storage) for the generating station, these expenses are not made part of the total O&M expenses allowed and the consequent annual fixed charges determined in this order.

Interest on Working Capital

155. Clauses (1) and (2) of Regulation 28 of the 2014 Tariff Regulations provide as under:

“28. Interest on Working Capital:

(1) The working capital shall cover:

(a) Coal-based/lignite-fired thermal generating stations:

(i) Cost of coal or lignite and limestone towards stock if applicable for 15 days for pithead 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.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

Fuel cost and Energy charges in Working Capital

156. The Commission in its order dated 26.12.2017 in Petition No.152/GT/2015 had allowed interest on working capital based on 'as billed GCV' on provisional basis, as follows:

"165.We however direct the Petitioner to place on record the GCV of coal for the preceding three months on "as received" basis in terms of the directions contained in order dated 25.1.2016, at the time of truing-up of tariff of the generating station for 2014-19 in terms of Regulation 8 of the 2014 Tariff Regulations. The "as received GCV" furnished by the Petitioner for the few days of the month of October, 2016 for which sample is taken from the track hopper cannot be considered "as received" GCV of coal since the computation for fuel components in the working capital is undertaken based on the preceding three months i.e. for the month of January, 2014, February, 2014, and March, 2014. Also, the sample taken from track hopper is not in compliance with the Commission order dated 25.1.2016 in Petition No. 283/GT/2014, which specify that the measurement of GCV of coal on "as received" basis shall be taken from the loaded wagons at the unloading point either manually or through the Hydraulic Augur."

157. The Commission vide order dated 26.12.2017 in Petition No.152/GT/2015 allowed the fuel cost for computation of interest on working capital (IWC) based on price and GCV on 'as billed' basis with adjustment formula as Petitioner did not furnish the requisite "as received GCV". The Petitioner has not furnished the details of 'as received' GCV in the true-up petition also and has also not made any prayer



for revision of interest on working capital (IWC) with respect to GCV on 'as received' basis. In this background, we have considered the 'as billed' GCV to be 'as received' GCV, and the components of working capital i.e. the cost of coal for stock (30 days), cost of coal for generation (30 days) and Energy charges (for two months) as allowed in Commission's order dated 26.12.2017 in Petition No.152/GT/2015, has been considered for the purpose of tariff, in this order. Accordingly, the fuel components in working capital have been allowed as per order dated 26.12.2017 in Petition No.152/GT/2015 which is as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock - 30 days	10458.70	10487.35	10458.70	10710.71	10710.71
Cost of Coal for towards generation - 30 days	10315.43	10315.43	10315.43	10563.99	10563.99
Cost of Secondary fuel oil towards generation - 2 months	300.37	301.19	300.37	307.60	307.60

Working capital for Maintenance Spares

158. The Petitioner, in Form-13B of the petition, has claimed maintenance spares towards working capital as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
3569.31	3786.53	4018.58	4255.10	4488.65

159. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provides for maintenance spares @20% of the O&M expenses as specified in Regulation 29 of the 2014 Tariff Regulations. Therefore, in terms of Regulation 29(2) of the 2014 Tariff Regulations, the maintenance spares @20% of the O&M expenses, including water charges and capital spares are allowed are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
3549.24	3771.31	4005.96	4237.22	4478.13



Working capital for O & M Expenses

160. O&M expenses for 1 month as claimed by the Petitioner in Form-13B for the purpose of working capital are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1487.21	1577.72	1674.41	1772.96	1870.27

161. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for O&M expenses for one month towards Working Capital for coal-based generating stations. Accordingly, the O&M expenses (for 1 month) are allowed as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1478.85	1571.38	1669.15	1765.51	1865.89

162. The difference in the O&M expenses for 1 month and the Maintenance spares allowed as above, as against those claimed by the Petitioner, is due to the fact that while the Petitioner had considered the O&M expenses in lieu of 2nd Township also for calculation under these heads, the same has not been considered (since disallowed in this order) in the calculations, while allowing the claims under these heads.

Working capital for Receivables

163. Receivables equivalent to two months of capacity charges and two months of energy charges towards Working Capital (as allowed in Commission's order dated 26.12.2017 in Petition No.152/GT/2015) are allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Fixed charges – for two months	17253.62	17484.40	17233.33	16747.94	16621.10
Energy Charges – for two months	21074.50	21103.97	21074.50	21582.30	21582.30

Rate of interest on working capital

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

“Interest on working Capital:



(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.”

165. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10.00 + 350 bps). Accordingly, Interest on working capital has been computed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital - Cost of coal for stock - 1 month	10458.70	10487.35	10458.70	10710.71	10710.71
Working Capital - Cost of coal for generation - 1 month	10315.43	10315.43	10315.43	10563.99	10563.99
Working Capital for O&M expenses - 1 month of O&M Expenses	1478.85	1571.38	1669.15	1765.51	1865.89
Working Capital - Cost of secondary fuel oil - 2 months	300.37	301.19	300.37	307.60	307.60
Working Capital for Maintenance spares	3549.24	3771.31	4005.96	4237.22	4478.13
Working Capital for Receivables (Fixed charges - 2 months)	17253.62	17484.40	17233.33	16747.94	16621.10
Working Capital for Receivables (Variable charges - 2 months)	21074.50	21103.97	21074.50	21582.30	21582.30
Total Working Capital	64430.71	65035.02	65057.44	65915.27	66129.71
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	8698.15	8779.73	8782.75	8898.56	8927.51

Annual Fixed Charges

166. Accordingly, the annual fixed charges approved for the generating station for the 2014-19 tariff period is summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	26333.62	27727.29	28076.30	28102.15	28295.00
Interest on Loan	27957.86	25842.46	22561.92	18331.74	15953.23
Depreciation	22785.93	23700.34	23949.17	23969.12	24160.20
O&M Expenses	17746.18	18856.55	20029.82	21186.09	22390.63
Interest on Working Capital	8698.15	8779.73	8782.75	8898.56	8927.51
Total	103521.74	104906.37	103399.96	100487.66	99726.57

167. As stated in paragraph 153 above, the Ash disposal expenses allowed is as below:



<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
6098.44	3791.36	3647.73	3320.87	3340.46	20198.86

168. The annual fixed charges allowed in order dated 1.10.2019 in Petition No.152/GT/2015 and those allowed by this order are as under:

<i>(Rs. in lakh)</i>					
Total annual fixed charges allowed in order dated 1.10.2019	99154.50	106314.26	107868.34	106552.83	111287.93
Total annual fixed charges allowed in this order	103521.74	104906.37	103399.96	100487.66	99726.57

169. The difference between the annual fixed charges already recovered by the Petitioner in terms of the order dated 26.12.2017 read with order dated 1.10.2019 in Petition No.152/GT/2015 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 of the 2014 Tariff Regulations.

DETERMINATION OF TARIFF FOR THE 2019-24 TARIFF PERIOD

170. The Petitioner has also sought determination of tariff of the generating station for the 2019-24 tariff period in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations'). The capital cost and the annual fixed charges claimed by the Petitioner for the 2019-24 tariff period are as under:

Capital cost claimed

<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	487912.60	495633.42	567869.17	570388.32	571685.49
Add: Addition during the year	8043.42	74677.26	4259.96	2230.40	1409.61
Less: De-capitalisation during the year	1138.34	2927.46	2110.64	1119.45	727.30
Add: Normative IDC on excess equity	735.90	446.12	337.89	185.90	158.15
Add: Normative IDC on actual loan	79.84	39.84	31.94	0.32	0.10
Net Addition during the year	7720.82	72235.75	2519.16	1297.17	840.56
Closing Capital Cost	495633.42	567869.17	570388.32	571685.49	572526.06



Annual Fixed Charges claimed

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	24749.94	27550.14	28974.28	28636.91	28520.47
Interest on Loan	19930.00	20362.72	20382.68	17312.75	14126.82
Return on Equity	27697.63	29925.95	32013.23	32113.07	32170.55
Interest on Working Capital	9004.43	9141.36	9303.66	9273.90	9285.71
O & M Expenses	27212.89	28222.13	30425.80	30830.27	32146.01
Ash Disposal Expenses	3425.59	3416.23	3416.23	3416.23	3425.59
Additional Tax	38.28	38.28	0.00	0.00	0.00
Total	112058.77	118656.81	124515.87	121583.13	119675.14

Capital Cost

171. Regulation 19 of the 2019 Tariff Regulations provides as under:

“19. Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.

xxxx

(3) The Capital cost of an existing project shall include the following:

(a) Capital cost admitted by the Commission prior to 1.4.2019 duly tried up by excluding liability, if any, as on 1.4.2019;

(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;

(c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;

(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and

(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

172. The Petitioner has claimed the opening capital cost of Rs.487912.60 lakh as on 1.4.2019. However, in accordance with Regulation 19(3) of the 2019 Tariff Regulations, the closing capital cost of Rs. 478969.24 lakh as on 31.3.2019, as approved in this order, for the 2014-19 tariff period, has been considered as the opening capital cost as on 1.4.2019, for determination of tariff for the 2019-24 tariff period.



Additional Capital Expenditure

173. Regulations 25 and 26 of the 2019 Tariff Regulations provide as under:

“25. Additional Capitalisation within the original scope and after the cut-off date:

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

(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Deferred works relating to ash pond or ash handling system in the original scope of work;

(d) Liability for works executed prior to the cut-off date;

(e) Force Majeure events;

(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and

(g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

26. Additional Capitalisation beyond the original scope

(1) 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 beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Force Majeure events;



(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

(2) 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 value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised.”

174. The Petitioner has claimed additional capital expenditure in respect of assets/ works which form part of the original scope of work of the project, but after the cut-off date, in terms of the provisions of Regulation 25 of the 2019 Tariff Regulations. It has also claimed additional capital expenditure in respect of assets/ works which are beyond the original scope of work of the project in terms of the provisions of Regulation 26 of the 2019 Tariff Regulations. Accordingly, the year-wise projected additional capital expenditure claimed by the Petitioner for the 2019-24 Tariff Period is summarized and examined under:

(Rs. in lakh)

Sl. No.	Head of work/Equipment	Regulations	2019-20	2020-21	2021-22	2022-23	2023-24
A	Projected Additional Capitalisation within the original scope of work, but after the cut-off date						
1	Cost of Land & Site	25(1)(e)	3881.64	-	-	-	-
2	General Civil Works-Boundary Wall	25(1)(e)	160.00	-	-	-	-
3	Railway Package (inclusive of IDC)	25(1)(e)	-	68506.24	-	-	-
4	IT equipment	25(2)(b)	82.93	-	-	-	-
5	2 Numbers Flat Top Freezers @ Aahar I	25(2)(b)	-	-	-	-	-
6	C.T.Fan Gearbox	25(2)(b)	-	200.00	-	-	-
7	Centrifugal compressor and motor for BTG	25(2)(b)	-	350.00	400.00	-	-
8	Centrifugal Compressors for Ash Plant	25(2)(b)	-	300.00	300.00	300.00	300.00
9	Coal Mill Internals	25(2)(b)	-	100.00	200.00	200.00	-



Sl. No.	Head of work/Equipment	Regulations	2019-20	2020-21	2021-22	2022-23	2023-24
10	Coal Mill Journal Assembly	25(2)(b)	-	200.00	300.00	300.00	-
11	Cooling Tower Internals	25(2)(b)	-	100.00	100.00	100.00	100.00
12	Economiser Coil (both Upper & Lower Bank)	25(2)(b)	-	1200.00	-	-	-
13	Fabrication of expansion bellows	25(2)(b)	46.90	40.07	-	-	-
14	Godrej Storewell 12 numbers for GH	25(2)(b)	-	3.00	-	-	-
15	LG 230 litres Fridge 5 numbers	25(2)(b)	-	1.50	-	-	-
16	LTSH Coil (both Upper & Lower Bank)	25(2)(b)	-	-	800.00	-	-
17	Office Chairs	25(2)(b)	-	25.00	-	-	-
18	Refurbishment of DM Plant Piping and Tanks	25(2)(b)	118.02	-	-	-	-
19	Refurbishment of Economiser Coil Unit 2	25(2)(b)	50.00	-	-	-	-
20	Refurbishment of Economiser Coil Unit1	25(2)(b)	50.00	-	-	-	-
21	Refurbishment of Pulverizer Internals	25(2)(b)	100.00	-	-	-	-
22	Refurbishment of U1 & U2 HP Bypass System	25(2)(b)	-	-	-	-	-
23	Re-heater Modification & MTM installation	25(2)(b)	191.47	-	-	-	-
24	Re-Heater Straight Tubes & Bends	25(2)(b)	-	350.00	400.00	450.00	450.00
25	Replacement of Slew Hydraulic Motor of Stacker-cum-Re-claimer	25(2)(b)	-	-	159.87	-	-
26	Replacement of Township ACs	25(2)(b)	-	-	50.00	-	-
27	Vacuum Pump	25(2)(b)	-	200.00	200.00	-	-
28	ID fan motor with VFD replacement	25(2)(c)	-	450.00	450.00	450.00	450.00
29	Laboratory Instruments	25(2)(c)	-	21.94	57.08	52.90	22.11
30	MAX DCS Version up-gradation (XP) Unit 2	25(2)(c)	450.00	-	-	-	-
31	Replacement of Battery	25(2)(c)	-	80.00	80.00	90.00	-
32	Up-gradation of CHP Main PLC	25(2)(c)	-	60.00	-	-	-
33	Up-gradation of DMP PLC	25(2)(c)	-	50.00	-	-	-
34	Up-gradation of Raw Water PLC	25(2)(c)	-	50.00	-	-	-
B	Projected Additional Capitalization beyond the original scope of work						
35	Soak Pit for Station transformer in switchyard.	26(1)(a)	40.00	-	-	-	-
36	Up-gradation of ABT for RRAS & SCED	26(1)(a)	-	75.00	-	-	-
37	Implementation of AGC	26(1)(a)	80.00	-	-	-	-
38	Drinking Water Facility	26(1)(b)	19.77	-	-	-	-
39	Drivers' rest room	26(1)(b)	-	5.00	-	-	-
40	Facility creation for workmen: Rest Room, Toilet and drinking	26(1)(b)	-	37.50	37.50	37.50	37.50



Sl. No.	Head of work/Equipment	Regulations	2019-20	2020-21	2021-22	2022-23	2023-24
	water point						
41	Workers pathway	26(1)(b)	-	150.00	-	-	-
42	Augmentation of ash handling	26(1)(c)	1416.80	500.00	-	-	-
43	Augmentation of store	26(1)(c)	329.26	-	-	-	-
44	BCN 7 (Yard Conveyor) modification	26(1)(c)	-	-	-	-	-
45	Chute Interconnection in 4A to 6B & 4B to 6A	26(1)(c)	-	-	50.00	-	-
46	Coal Pit Run-off mechanised Drainage systems	26(1)(c)	399.53	-	-	-	-
47	Common C.W.Pump for Unit No.1& Unit No.2	26(1)(c)	-	-	-	-	-
48	Covered Parking Block at Township	26(1)(c)	-	2.50	-	-	-
49	Economiser Coil Repairing Bay with shed	26(1)(c)	-	600.00	-	-	-
50	Electric Vehicle (cart) for visitors movement	26(1)(c)	-	-	-	-	-
51	Industrial kitchen setup at MA-2	26(1)(c)	-	6.50	-	-	-
52	Installation of suspended magnet	26(1)(c)	52.41	-	-	-	-
53	Modernization of Gym, Rooftop cafeteria and Community hall	26(1)(c)	5.00	-	-	-	-
55	Workshop for EMD	26(1)(c)	-	50.00	-	-	-
56	Automation of Boom barrier	26(1)(d)	-	20.00	-	-	-
57	Boundary wall under pass area	26(1)(d)	-	100.00	-	-	-
58	CCTV installation all around plant. (76 CCTV planned)	26(1)(d)	-	200.00	200.00	150.00	-
59	Construction of high-rise safety platform and walkways)	26(1)(d)	300.00	-	-	-	-
60	E- Security system	26(1)(d)	148.99	100.00	-	-	-
61	Economiser platform for both boilers	26(1)(d)	-	350.00	-	-	-
62	Gate House Near JNT	26(1)(d)	120.70	-	-	-	-
63	Mini Fire tender	26(1)(d)	-	25.00	-	-	-
64	Road along Boundary wall (Periphery Road 18 kms)	26(1)(d)	-	-	150.00	100.00	50.00
C	Total additional capitalexpenditure claimed		8043.42	74677.26	4259.96	2230.40	1409.61
D	Less: De-capitalization during the year / period		1138.34	2927.46	2110.64	1119.45	727.30
E	Net additional capitalexpenditure claimed		6905.08	71749.80	2149.32	1110.95	682.31

Projected additional capital expenditure within the original scope of work of the project under Regulation 25(1)(e) of the 2019 Tariff Regulations

175. Regulation 25(1)(e) of the 2019 Tariff Regulations provide as under:



“25. Additional Capitalization within the original scope and after the cut-off date:

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

(a) xxx

xxxxx

(e) Force Majeure events;

176. The following additional capital expenditure has been claimed by the Petitioner in respect of assets/ works which form part of the original scope of work of the project, but after the cut-off date, under Regulation 25(1)(e) of the 2019 Tariff Regulations:

Head of work / Equipment	(Rs. in lakh)	
	2019-20	2020-21
a. Railway Infrastructure Package (inclusive of IDC)	-	68506.24
b. Cost of Land & Site	3881.64	-
c. General Civil Works-Boundary wall	160.00	-

177. The Petitioner has claimed projected additional capital expenditure of Rs.68506.24 lakh for ‘Railway Infrastructure Package’ in 2020-21 under Regulation 25(1)(e) of the 2019 Tariff Regulations and has submitted the following:

- a) Petitioner envisaged Railway Infrastructure Package to facilitate the transportation of coal to the Project. The Railway Package was planned to be executed in three phases, Phase I, Phase II and Phase III. Phase-I is essential for existing Stage-I (of the generating station with the approved Railway Project cost of Rs.574 crore (earlier Rs.405 crore) with a total approved Project cost of Rs.5696 crore.
- b) The land acquired for Phase I, Stage-1 by the Petitioner was 82.01 acres, which comprises of 64.23 acres of Private land, 17.78 acres of Government land (which includes 4.81 acres of Krishi land). Additionally, this Phase included Railway land of 17 acres. The Private land and Government land is spread over nine villages. The Petitioner earnestly started the work for completion of the Railway Project immediately after Board approval and tying up finance in 2008.

178. The Petitioner has submitted that the completion of Railway Infrastructure Package was delayed due to reasons beyond the control of the Petitioner. The



Petitioner has also stated that it had already submitted detailed reasons in Petition No.152/GT/2015 for the delay in the Railway Infrastructure Package. The Petitioner has further submitted that the execution of few Project packages including the Railway Infrastructure Package was delayed on account of reasons, primarily in acquisition of requisite land parcels for this package, which are beyond the control of the Petitioner and, therefore, the capitalization of these packages could not be achieved within the cut-off date i.e. 31.3.2015. The summary of the reasons for the delay in the completion of the Railway Package are as below:

- i) Re-alignment of the Dedicated Freight Corridor and revision in Railway norm of elevation from 1:400 to 1:1200;
- ii) Rehabilitation and Resettlement (R&R) scheme for acquisition of land required for Railways Infrastructure has taken longer time than anticipated due to irregularities in payments made by the District Land Acquisition Officer (DLAO);
- iii) Denial of allotment of total quantum of land by Eastern Railways;
- iv) Multiple technical issues raised and multiple revisions of approved DPR, ESP, ESSP, S&T caused by Eastern Railways;
- v) Unlawful encroachments in Railway lands and inaction by the Government of Jharkhand (GoJ) and Railways;
- vi) Ownership claims by local residents on GM land (Gair Majorua land) allocated to Petitioner and inaction by GoJ;
- vii) Disputes raised with respect to ownership of Private land by landowners and inaction by GoJ to resolve the same;
- viii) Widespread disputes &scams relating to payment of compensation to wrong persons by the Government officials;
- ix) Litigation with respect to acquisition of land and compensation thereof; and
- x) Delay in the appointment of DLAO to oversee disputes pertaining to acquisition of land by Petitioner.

179. The Petitioner in Annexure-P/6 of the petition has furnished the details of time and cost overrun of the Railway Infrastructure Package along with justification. The Petitioner has submitted that it made all efforts to expedite the possession of land



parcels and completed the construction in those patches of land parcels in phases as and when the possession of these parcels were obtained, which at times needed changes in design and scope due to actual site measurements being different from estimates in design, when access was available for those parcels. The Petitioner has submitted that with the present status and speed of resolution of disputes, it is expected that the entire land related issues pertaining to Railway Infrastructure Package would be resolved and possession of all land parcels would be obtained by the end of June 2020 and accordingly the Railway Infrastructure Package would be completed by 31.3.2021. It has stated that land acquisition has been categorized as an 'uncontrollable factor' under the 2019 Tariff Regulations if the delay is for reasons not attributable to the Petitioner. The Petitioner has added that the significance of completing the Railway Infrastructure Package also arises from the fact that the present arrangement of transporting coal through trucks has been seen as an environmental concern and from fuel security point of view for ensuring supply to the beneficiaries on completion of the Railway Infrastructure Package gains utmost importance. The Petitioner has submitted that the delay in commissioning of Railway Infrastructure Package is mainly due to land related issues which were totally out of control of the Petitioner and the same is a 'force majeure' condition, which is to be considered and allowed in terms of Regulation 3(25) read with Regulation 25 of the 2019 Tariff Regulations.

180. As regards cost overrun of the Railway Infrastructure Package, the Petitioner has submitted that the same was beyond the control of the Petitioner and the increase in the Railway Infrastructure Package cost forced the Petitioner's Board to re-allocate the project cost. In addition, the Petitioner has stated that the Railway Infrastructure Package contract which was initially awarded to M/s L&T had to be split into three parts, on account of the unforeseen delays and was reallocated



among the initial contractor M/s L&T, and the new contractors M/s Amex and M/s Kanwar. The Petitioner's Board in its meeting dated 16.3.2019 had approved the cost and internal allocations under the 'Railway Infrastructure cost' for Rs.574.66 crore excluding IDC. It has further stated that during the execution of the packages identified under Railway infrastructure, the cost allocation was changed and approved by the Board for revised allocation, keeping the overall cost of Railway Infrastructure package within the approved budget of Rs.574.66 crore in the Board meeting dated 16.10.2019. The Petitioner has submitted that the total IDC is Rs.152.75 crore on Railway Infrastructure Package. We note that the total Railway Infrastructure Package cost approved by the Board works out to Rs.712.14 crore (Rs.559.38 crore + Rs.152.75 crore) out of which the Petitioner has capitalized and claimed Rs.28.13 crore (Rs.24.13 crore + Rs.4.49 crore of IDC) during 2015-16 which has not been allowed (as discussed in earlier part of this order) as the Railway Package could not be put to use during 2015-16.

181. The Petitioner has claimed projected additional capital expenditure of Rs.3881.64 lakh in 2019-20 towards the cost of 'Land & Site' and additional capitalization of Rs.160.00 lakh in 2019-20 towards 'General Civil Works' under Regulation 25(1)(e) of the 2019 Tariff Regulations and has submitted the following:

(a) Land & Site

a) The Petitioner has envisaged the revised demand for 115 acres GM land as per present circle rate at Rs.35.28 crore. Also, the payment for Krishi farmland for 4.81 acres (80% of which has already been paid) for Railways corridor consisting of land in Kumthol and Poddardih village and the remaining 20% of payment demand (for Rs.0.60 crore) is envisaged in 2019-20. Similarly, 80% payment for 6.96 acres of GM land for Stage 1 and 6.01 acres of land for Stage-2 meant for the Railway corridor has been paid and the balance demand for 20% is estimated at Rs. 2.54 crore in 2019-20.

b) Even after continuous follow-up, the balance demand is yet to be received from the Govt. of Jharkhand. The same is beyond the control of the Petitioner and ought to be considered as an 'uncontrollable factor'.



c) The detailed submissions justifying the 'force majeure' delay on account of land issues had already been furnished in the truing-up of tariff in this petition and the same are not repeated here for the sake of brevity. The detailed reasons for the delay have been finished in Annexure P/5 of the petition.

(b) General Civil Works

The delay in the execution of works in General Civil Works (GCW) Package is on account of various reasons beyond the control of the Petitioner as under:

(a) The balance works to be carried out under the GCW Package is mainly on account of the un-finished portion of the boundary wall around the Ash Pond and construction of boundary wall in 226 acres land.

(b) Although the remaining work is related to Ash Pond and construction of wall, the same is included under the 'General Civil Works' owing to the nature of the balance scope of work. The completion of the boundary wall around the Ash Pond has been delayed on account of land related issues, the resolution of which has taken much longer time than envisaged earlier. Therefore, the balance work of the boundary wall is expected to be completed by 2019-20.

(c) The detailed submissions justifying the delay in execution of General Civil Works has been furnished in the truing-up of tariff petition in Annexure P/12 of the petition and the same are not repeated herein for sake of brevity.

182. The Respondent, KSEBL has mainly submitted that the Petitioner is not eligible to seek the additional capitalization of the expenditure towards cost of land & site and for Railway Infrastructure Package, after the cut-off date. It has also submitted that there has been lack of co-ordination on part of the Petitioner with the local administration for resolution of disputes, which has led to the inordinate delay in the execution of the work. Accordingly, the Respondent has prayed that the impact of cost & time overrun for the aforesaid work may not be passed on to the beneficiaries.

183. The submissions have been considered. The Petitioner, in Petition No.152/GT/2015, had furnished detailed reasons for the delay in the execution of the Railway Infrastructure Package and submitted that the execution of few project packages including Railway Infrastructure Project package was delayed primarily on account of delay due to acquisition of requisite land parcels for this package, which



are beyond the control of the Petitioner and fall under 'force majeure' conditions. It had, therefore, submitted that the capitalization of expenditure on the scheme could not be achieved within the cut-off date and, accordingly, sought for extension of the cut-off date of the project till 31.3.2019 in view of the constraints faced in the execution of few project packages including Railways. Vide order dated 26.12.2017 in Petition No.152/GT/2015, the Petitioner was granted liberty to approach the Commission for additional capitalization, based on the actual additional expenditure incurred for these assets. The Petitioner, in this petition for truing up of tariff for the 2014-19 tariff period, claimed additional capitalization of these packages (Land & Site and GCW) after the cut-off date (for 2015-19) on the ground that these packages could not be completed within the cut-off date, due to 'force majeure' conditions, which were beyond the control of the Petitioner. It was also submitted by the Petitioner that most of the project packages were completed in 2015-16, except for the Railway System, GCW and Land & Site, which were expected to be completed by 31.3.2021. It was, however, submitted that some assets in these packages were put to use and part-capitalized during the 2014-19 tariff period and the balance to be capitalised during the 2019-24 tariff period.

184. It is noticed that the Petitioner had claimed actual additional capitalization of Rs.2861.56 lakh (including IDC of Rs.448.94 lakh) in 2015-16, towards Railway Infrastructure Package, forming part of the original scope of work of the project and had submitted that the said package was yet to be completed and operationalized by the Petitioner, owing to severe land acquisition disputes as narrated therein including submissions made in Petition No.152/GT/2015. However, on prudence check, it was evident that the 'Railway Infrastructure Package' had not been completed and put to use by the Petitioner. Only certain civil assets like roads, over-bridges and under-



passes were constructed and the expenditure incurred on these was sought to be capitalized. Since the construction of these civil assets do not have any nexus with the generation of power, the Commission, in this order, had not permitted the additional capitalization of these assets, until the Railway Infrastructure Package was completed. In other words, the capitalization of expenditure on 'Railway Infrastructure Package' after the cut-off date was never considered as the same had not been completed and put to use by the Petitioner. As regards the delay in Railway Infrastructure Package, the Petitioner has made detailed submissions in Annexure P/6 of the petition, similar to those made in Petition No.152/GT/2015. It is evident from these submissions that the delay was mainly on account of 'land acquisition' issues, which also involved litigation before the Courts and payment of compensation thereof. It is pertinent to mention that the Railway Infrastructure Package could not be commissioned until all land parcels in the route were available with the Petitioner free of any encumbrance. It is noticed that Regulation 22(2) of the 2019 Tariff Regulations provides for 'land acquisition' as an 'uncontrollable factor', except where the delay is attributable to the generating company or the transmission licensee, as the case may be. The relevant portion of the said regulation is extracted hereunder:

"The 'uncontrollable factors' shall include but shall not be limited to the following:

- a. Force Majeure events;*
- b. Change in law; and*
- c. Land acquisition except where the delay is attributable to the generating company or the transmission licensee."*

185. From the submissions of the Petitioner with regard to time overrun for Railway Infrastructure Package read with the submissions in Annexures P/5 & P/12 of this petition, it is noticed that a series of events had affected the progress of resolution of land acquisition issues. The Petitioner had made various correspondences/communication with the local administration for expediting the land acquisition



process for Railway project and had also approached the Hon'ble High Court of Jharkhand seeking directions upon the local administration. Also, the identification of the rightful owners, the correction of earlier awards in terms of the directions of the Hon'ble High Court, the submission of claims and payment of compensation and obstacles created by encroachment have all led to the delay in possession of land and the construction and final commissioning of the said package got delayed. The Petitioner has taken efforts to expedite the possession of land parcels and to complete the construction in those patches of land parcels in phases as and when the possession of these parcels was obtained. We have, in paragraph 38 to paragraph 46 of this order, examined the submissions of the Petitioner with regard to the delay in the availability of land & site and the delay in execution of the General Civil Works, consequent upon the non-availability of land, attributed to the change in policy of State Government and Order of the Hon'ble High Court, and allowed the additional capitalisation of the expenditure claimed by the Petitioner for the period 2015-19 under Regulation 14(3)(i) of the 2014 Tariff Regulations, for compliance with the orders of the Hon'ble Court. Considering the fact that these are balance works which have spilled over from 2018-19 and keeping in view that the Railway Infrastructure Package, being an interdependent activity, contingent upon the clearance of land acquisition issues, we hold, that the delay is on account of events which are not attributable to the Petitioner. In our considered view, the delay due to non-availability of land & site, which has caused the delay in the execution of the General Civil Works for the period 2015-19, holds good for the delay in the completion of Railway Infrastructure Package for the period 2019-21 also. For these reasons, the projected additional capitalization of Rs.68506.24 lakh for 'Railway Infrastructure Package' in 2020-21 and the projected additional capitalization of Rs.4041.64 lakh (Rs.3881.64 lakh for cost of Land and Site and Rs.160.00 lakh for



General Civil Works) in 2019-20 is allowed under Regulation 25(1)(a) of the 2019 Tariff Regulations. However, the total cost including cost disallowed for the year 2015-16 on Railway Package shall be considered and dealt on merits, after prudence check, at the time of truing-up.

Projected additional capital expenditure under Regulation 25(2)(b) of the 2019 Tariff Regulations

186. Regulation 25(2)(b) of the 2019 Tariff Regulations provide as under:

“25(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) xxxxxx;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

xxxx”

187. The following additional capital expenditure has been claimed by the Petitioner under Regulation 25(2)(b) of the 2019 Tariff Regulations:

<i>(Rs. in lakh)</i>						
Sl. No.	Head of work/ Equipment	2019-20	2020-21	2021-22	2022-23	2023-24
1	Coal Mill Internals	0.00	100.00	200.00	200.00	0.00
2	Coal Mill Journal Assembly	0.00	200.00	300.00	300.00	0.00
3	Economiser Coil (both Upper & Lower Bank)	0.00	1200.00	0.00	0.00	0.00
4	LTSH Coil (both Upper & Lower Bank)	0.00	0.00	800.00	0.00	0.00
5	Refurbishment of Economiser Coil Unit 2	50.00	0.00	0.00	0.00	0.00
6	Refurbishment of Economiser Coil Unit 1	50.00	0.00	0.00	0.00	0.00
7	Refurbishment of Pulverizer Internals	100.00	0.00	0.00	0.00	0.00
8	Re-Heater Straight Tubes & Bends	0.00	350.00	400.00	450.00	450.00
9	C.T.Fan Gearbox	0.00	200.00	0.00	0.00	0.00
10	Centrifugal compressor and motor for BTG	0.00	350.00	400.00	0.00	0.00
11	Centrifugal Compressors for Ash Plant	0.00	300.00	300.00	300.00	300.00
12	Replacement of Slew Hydraulic Motor of Stacker cum Re-claimer	0.00	0.00	159.87	0.00	0.00
13	Vacuum Pump	0.00	200.00	200.00	0.00	0.00



14	2 Numbers Flat top freezers @ Aahar I	0.00	0.00	0.00	0.50	0.00
15	Godrej storewell 12 nos for GH	0.00	3.00	0.00	0.00	0.00
16	LG 230 litres fridge 5 numbers	0.00	1.50	0.00	0.00	0.00
17	Office chairs	0.00	25.00	0.00	0.00	0.00
18	Replacement of township ACs	0.00	0.00	50.00	0.00	0.00
19	IT equipment	82.93	0.00	0.00	0.00	0.00
20	Cooling Tower Internals	-	100.00	100.00	100.00	100.00
21	Refurbishment of DM Plant Piping and Tanks	118.02	0.00	0.00	0.00	0.00
22	Fabrication of expansion bellows	46.90	40.07	0.00	0.00	0.00
23	Refurbishment of U1 & U2 HP Bypass system	0.00	0.00	0.00	0.00	0.00
24	Re-heater Modification & MTM installation	191.47	0.00	0.00	0.00	0.00

188. As regards the claim for additional capitalization on items/ assets like Coal Mill Internals, Coal Mill Journal Assembly, Economiser Coil (both Upper & Lower Bank), LTSH Coil (both Upper & Lower Bank), Refurbishment of Economiser Coil Unit 2, Refurbishment of Economiser Coil Unit1, Refurbishment of Pulverizer Internals, Re-Heater Straight Tubes & Bends, the Petitioner has submitted that due to poor quality of coal, higher quantity of ash is generated and coarse type of ash is produced in the generating station. It has also stated that due to the abrasive nature and more quantity of ash, the life of these equipment has reduced and are, therefore, required to be replaced. Accordingly, it has submitted that the replacements of these assets are necessary on account of Force majeure conditions. The Respondent, KSEBL has submitted that the amount claimed under this head mainly involves expenditure projected for replacement of assets or equipment and is covered under R&M expenses and, therefore, the claim may be rejected.

189. The matter has been considered. The 2019 Tariff Regulations do not contain any provision for correlating the life of the asset/ equipment corresponding to the quality of coal. Different generating stations use different quality of coal as per the Fuel Supply Agreements (FSA) executed by them with coal companies, depending



upon the mine from which coal is procured. The Petitioner has based its claim of replacement of assets to poor quality of coal that has led to higher generation of ash apart from ash being coarse in nature. The Petitioner has submitted that due to abrasive nature and higher quantity of ash, the life of equipment have reduced and, therefore, are required to be replaced. The Petitioner has submitted that these events (higher quantity and coarse nature of ash which being abrasive, have lowered life of equipment/ asset) are Force majeure conditions. However, we note that the Petitioner has not furnished whether the coal received at the generating station is as per the provisions of FSA and as per the design coal considered at the time of selection of the equipment/ technology. The Petitioner has also not mentioned if the quality of coal being supplied is different from the one agreed in FSA with coal companies and whether the matter has been taken up with coal companies. Moreover, reduction in the life of equipment and replacement of the same due to poor quality of coal, cannot qualify as a force majeure condition to be eligible for grant of relief under Regulation 25(2)(b) of the 2019 Tariff Regulations. In view of this, the projected additional capital expenditure claimed in this respect is not allowed.

190. As regards the claim of the Petitioner under Regulation 25(2)(b) of the 2019 Tariff Regulations for additional capitalization of expenditure on items/ works such as C.T. fan gearbox, Centrifugal compressor & motor for BTG, Centrifugal compressors for Ash Plant, Replacement of slew hydraulic motor of stacker-cum-reclaimer, Vacuum Pump, Refurbishment of U1 & U2 HP bypass system and Cooling tower internals, the justification furnished by the Petitioner is as below:

C.T. Fan Gearbox

The Gear Boxes installed in Cooling Towers are operational since COD of the units and in continuous operation over 8 years. Moreover, these gearboxes are placed inside the Cooling tower cell, so they work under highly moist



environment and probability of water ingress inside the gearbox is very high. The combined effect of ageing and operating in highly moist environment has resulted in more chances of premature failure as is also evident from past records. Consequently, the unavailability of CT fan due to breakdown of Gear Box can result in less cooling of hot circulating water from condenser, leading to less condensation of inlet steam and increase in back pressure at turbine exhaust. Higher back pressure means low vacuum which in-turn increases inlet steam consumption and deteriorates heat rate of Turbine Generator (TG) cycle. In worst case, the generation of the unit may also need to be reduced to maintain vacuum and backpressure of the turbine. In view of the above facts and to increase the availability and reliability of units for smooth, uninterrupted power supply, it has been proposed for procurement of 50% of the total installed gear boxes and internal gears to replace the existing ones. The cost of Rs.2 Crore shall be incurred in 2020-21 for the same, which will avoid any unavailability of cooling tower fans due to sudden breakdown of Gear Box in running condition.

Centrifugal Compressor and motor for Boiler Turbine Generator

It is proposed to replace the existing screw compressors of BTG with centrifugal compressors of suitable capacity. The proposal is based on the running experience of screw compressors installed at site. Majority of screw compressor manufacturers do not support site/local repairs and overhauls of the screw elements instead recommend for replacement based on running hours. As per the OEM, the expected service life is approximately 4 years (32000 operating hours) for oil free air elements. To maintain reliability and avoid unexpected failures, both the air ends are to be replaced as per schedule. For installed capacity of 06 nos. of such compressors, material cost of air ends alone works out to Rs.3 crore for every 6 years (considering Rs.50 lakh for 01 set of HP and LP screw elements). Over a remaining service period they prove to be cost effective compared to procurement of capital spares for such major overhaul of screw compressors every 4 years as recommended by the OEM. The total cost of Rs.7.5 crore is estimated to be spent in 2 years i.e. Rs.3.5 crore in 2020-21 and Rs.4 crore in 2021-22. In view of the envisaged overall cost benefits from the proposed project, the capital expenditure for installation of centrifugal compressors for BTG instrument and service air requirements may kindly be approved.

Centrifugal Compressors for Ash Plant

Both Stage-I & II compressors are screw compressors and average life of such compressors are 4-5 years or 40000 hours and require repair/replacement for reliable operation. However, manufacturers of screw compressors do not support site/local repairs and overhauls of the air elements of compressor instead recommend for replacement based on running hours. As demonstrated above, it is expected that the overall cost of such recurring replacement over



remaining plant life would be higher compared to one-time capital expenditure required for substituting screw compressors with centrifugal compressors. It is proposed to undertake phase-wise replacement of Stage-I conveying Air compressors by centrifugal compressor. The total project cost is estimated to be Rs.12 crore which will be capitalized phase-wise in 2020-21, 2021-22, 2022-23 and 2023-24.

Cooling Tower Internals

Over a period of continuous use under the highly moist environment the combined with the effect of ageing has resulted in more chances of premature failures of Cooling Tower Internals. Therefore, for reliable operation of cooling tower healthiness of all components, viz, PVC fills, drive shaft, drift eliminators, flow control butterfly valves and blades of axial flow fans of cooling tower is very much essential. In view of the above facts and to increase availability and reliability of units for smooth, uninterrupted power supply, it has been proposed for procurement of IDCT internal spares of Rs.4 crore spread over 2020-21 to 2023-24 to replace the existing ones for smooth running of plant.

Refurbishment of U1 & U2 HP Bypass system

It is submitted that due to frequent failure of various components in the servo valve, the reliability and availability of this critical system has reduced drastically. Malfunction in the servo valve has led to inadvertent opening of the HP bypass valve during normal operation of the unit leading to loss of generation. Also, on many occasions due to blocking in these servo valves, the bypass valves failed to open whenever required leading to delay in the Unit start up or Unit shut down activity. Meanwhile, the Petitioner is working out to figure out the root cause of such failures and solution for the same. After the analysis, this expenditure may be incurred during 2019-20 to 2023-24 and, therefore, it is requested to the Commission to grant liberty to the Petitioner to seek capitalization against Refurbishment of HP bypass hydraulic servo system under applicable regulations, subject to prudence check at the time of truing-up exercise.

Replacement of slew hydraulic motor of stacker-cum-reclaimer

During reclaiming, abnormal pressure and speed variation has been observed. In view of above observation, the OEM was called on-site to assess the situation and rectify the issue. On inspection, heavy wear and tear of the hydraulic system was observed and the OEM has advised to operate with 50% reduced slewing motion and replacement of the slew hydraulic motor including brakes. The observations and corrective measures as suggested by the OEM has been recorded in the minutes of the meeting dated 8.3.2019 and minutes of the meeting dated 2.7.2019. The total cost of the proposal would be of Rs.1.60 crore in 2021-22 and the same is based on the offer submitted by authorized distributor.



Vacuum Pump

The vacuum pumps have cast iron impellers which have a service life of about 5 year. The OEM (M/s Edwards Ltd.) does not recommend any major welding repairs on the impeller as it compromises the safety of impeller during operation. One no spare vacuum pump available under project mandatory spares was installed during annual over-hauling in place of 01 number pump and local repair was made for the other pump. Similarly, heavy erosion was also recorded at both the impellers at Unit 2 during its AOH in May, 2019. Impeller blade and casing damage has occurred due to dislodging of the worn-out blade causing permanent damage to other blades as well as the casing. Therefore, the proposed capital expenditure of Rs.4 crore (Rs.2 crore in 2020-21 and Rs.2 crore in 2021-22) for the procurement of vacuum pump may be approved.

191. The submissions have been considered. The Petitioner, in justification of the claim for the aforesaid items/ assets, has mainly submitted that these equipment are required to be procured as 'spares' or on account of the fact that these items have 'worn out' or likely to be 'unserviceable' in due course of time. The Petitioner has also submitted that OEM has recommended their replacement in place of repair or change of the defective part. It is observed that in some of the cases, the Petitioner's claim is premised on poor quality of coal and in some cases, the claim is based on the recommendations of OEM. These factors do not, in our view, constitute change in law or a force majeure event, warranting any relief to the Petitioner. However, after examining the justifications furnished by the Petitioner, it is observed that in case of Centrifugal Compressor & motor for Boiler Turbine Generator and Centrifugal Compressors for Ash Plant, the OEM has suggested the replacement owing to the obsolescence/ unavailability of spares/ service support by OEM. In view of this, the projected additional capitalization of Rs.750.00 lakh (Rs.350.00 lakh in 2020-21 and Rs.400.00 lakh in 2021-22) for Centrifugal Compressor & motor for Boiler Turbine Generator and Rs.1200.00 lakh (Rs.300 lakh during each year from 2020-24) is allowed under Regulation 25(2)(c) of the 2019 Tariff Regulations. The Petitioner is



however, directed to furnish the recommendations of OEM at the time of truing-up of tariff.

192. However, for other items such as coal mill internals, cooling tower internals, economizer coil DM plant equipment, C.T fan gearbox etc. required to be replaced before the life of plant due to wear/ tear, we hold that the failure/ replacement of items does not fall under force majeure. However, replacement of such consumables may be met from the capital spares and may be claimed under capital spare consumption during truing up. In view of this, the additional capital expenditure claimed by the Petitioner is not allowed. Further, the prayer of the Petitioner for granting liberty to seek capitalization against 'Refurbishment of HP bypass hydraulic servo system' at the time of truing-up shall be considered as per the merit and provisions of regulations at the time of truing-up of tariff.

193. The Petitioner has also claimed additional capitalization for some minor assets/ items like Flat top freezers (2 numbers), Godrej storewell (12 numbers for guest house), office chairs, LG 230 litres fridge (5 numbers) and for replacement of township ACs. As regards flat top freezers, the Petitioner has submitted that their replacement is required as the existing units are not functioning properly due to deteriorated condition. As regards Godrej storewell, it has been submitted that the wooden setup of cupboards in DVC guest houses has deteriorated and a replacement by Godrej steel cupboards will help in damage-free arrangements. For office chairs, the Petitioner has stated that the replacement of chairs (including those in conference rooms) for officers and guests to ensure proper ergonomics and safety of individuals. In respect of LG 230 litres fridge, it has been submitted that as part of providing basic amenities at project office, gate house, CHP, switchyard and technical building pantry, the fridge, being used has completed its useful life and is



not commensurate with the useful life of the project. For replacement of township ACs, the Petitioner has stated that all ACs are more than 7 years old and, therefore, their replacement will be required by 2023-24 and will be done in a phased manner, depending on the condition of the units at various blocks in township. The Petitioner has contended that these minor items have life cycle of 7-8 years and need recurrent replacement. It has stated that the provision for Compensation Allowance that existed in the 2014 Tariff Regulations to compensate for addition of minor assets, is not there in the 2019 Tariff Regulations. Hence, the Petitioner has stated that there is no specific provision to claim the expenses for minor asset additions, which are important for the power plant and significant cost of Rs.0.81 crore is expected to be incurred during the 2019-24 tariff period. Accordingly, the Petitioner has submitted that the additional capitalization of these assets may be allowed in exercise of power vested under Regulation 76 read with Regulation 25(2)(b) of the 2019 Tariff Regulations. The submissions of the Petitioner have been considered. Since the additional capital expenditure claimed by the Petitioner do not relate to the operation of the generating station and are minor in nature, the claim for additional capitalization under Regulation 25(2)(b) of the 2014 Tariff Regulations is not allowed.

Projected additional capitalisation of the expenditure under Regulation 25(2)(c) of the 2019 Tariff Regulations

194. The following additional capital expenditure has been claimed by the Petitioner in respect of assets/ works, which are within the original scope of work of the project, but after the cut-off date, under Regulation 25(2)(c) of the 2019 Tariff Regulations:

<i>(Rs. in lakh)</i>						
Sl. No.	Head of work / Equipment	2019-20	2020-21	2021-22	2022-23	2023-24
1	Induced Draft fan motor with Variable Frequency Drive replacement	0.00	450.00	450.00	450.00	450.00



2	Laboratory Instruments	0.00	21.94	57.08	52.90	22.11
3	Replacement of Battery	0.00	80.00	80.00	90.00	-
4	Up-gradation of CHP main PLC	0.00	60.00	0.00	0.00	0.00
5	Up-gradation of DMP PLC	0.00	50.00	0.00	0.00	0.00
6	Up-gradation of Raw water PLC	0.00	50.00	0.00	0.00	0.00

195. Regulation 25(2)(c) of the 2019 Tariff Regulations provides as under:

“25. Additional capitalization within the original scope and after the cut-off date:

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and...”

Induced Draft fan motor with Variable Frequency Drive replacement

196. The Petitioner has claimed additional capitalization of Rs.1800.00 lakh (Rs.450.00 lakh in 2020-21, Rs.450.00 lakh in 2021-22, Rs.450.00 lakh in 2022-23 and Rs.450.00 lakh in 2023-24) for Induced Draft fan motor with Variable Frequency Drive replacement under Regulation 25(2)(c) of the 2019 Tariff Regulations. The Petitioner has submitted that the said item/ asset was supplied by M/s BHEL and is in service for more than 7 years. It has submitted that there have been multiple instances of channel tripping in the past, leading to loss of generation and reliability and from past records and minutes recorded in MoM dated 3.8.2019 with M/s BHEL, a tripping of particular LCI channel continued for more than 15 days in presence of BHEL supervisory engineer and the tripping count reached to more than 40 days. In view of the technological obsolescence, the recommendation of OEM for up-gradation and to address issue of present unreliability of the system, the Petitioner has proposed to retrofit the existing system with the latest technology, having improved diagnostic features and to achieve reliable and sustainable operation of ID fan.



197. The matter has been examined. The Petitioner has submitted that there have been multiple instances of channel tripping in the past and has referred to the MoM dated 3.8.2019 with OEM. On scrutiny of various correspondences made by the Petitioner with OEM, we find that the replacement of the asset was based on the expert opinion of the OEM as recorded in the said MoM. In view of this, the claim of the Petitioner for additional capitalization of Rs.450.00 lakh in 2020-21, Rs.450.00 lakh in 2021-22, Rs.450.00 lakh in 2022-23 and Rs.450.00 lakh in 2023-24 for the said asset is allowed along with the corresponding decapitalization of Rs.284.43 lakh in 2020-21, Rs.271.56 lakh in 2021-22, Rs.259.28 lakh in 2022-23 and Rs.247.55 lakh in 2023-24. The Petitioner is, however, directed to furnish the obsolescence certificate from the competent authority at the time of truing-up of tariff.

Laboratory Instruments

198. The Petitioner has claimed projected additional capitalization of Rs.154.03 lakh (Rs.21.94 lakh in 2020-21, Rs.57.08 lakh in 2021-22, Rs.52.90 lakh in 2022-23 and Rs.22.11 lakh for 2023-24) for Laboratory Instruments under Regulation 25(2)(c) of the 2019 tariff Regulations. The Petitioner has submitted that 'laboratory instruments' are getting old i.e. more than 8 to 10 years and new instruments need to be procured. It has also stated that laboratory Instruments presently in service at site, are quite old and have outlived their service life. The Petitioner has also submitted that some of these machines are slow in response and hang quite frequently and spares and service support for old machines are restricted due to component obsolescence. The Petitioner has further stated that OEM has declared the obsolescence of most spares and that most of the instruments cannot be serviced or repaired due to non-availability of spares, change in software and technology development (as the same have become obsolete in market). The



Petitioner has submitted that in view of the said constraints i.e., obsolescence of the laboratory equipment and criticality of the system for plant operations, the Petitioner has no choice but to go for complete up-gradation of the entire system to higher version as recommended by OEM in a phased manner from 2020-21 to 2023-24. It has stated that an estimated additional expenditure of Rs 154 lakh, as per initial offer, spread over the years 2020-21 to 2023-24 is required for up-gradation of Laboratory Instruments.

199. The matter has been examined. The Petitioner has stated that the OEM has declared obsolescence of most spares and that most of the instruments cannot be serviced or repaired due to non-availability of spares, change in software and technology development. The relevant portion of the said recommendation is as under:

“This is to confirm that some of the instruments mentioned below from the order cannot be serviced or repaired due to non-availability of spares, change in software and technology development because they became obsolete in market, thus it makes highly impossible to keep them in working condition.....

So we recommend you to upgrade the laboratory with new instruments in order to maintain a better performance to minimize downtime”

200. The Petitioner has also referred to the correspondence made with M/s Orbit Technologies Limited with regard to the non-availability/ obsolescence of some of the items like PH meter, turbidity meter, conductivity meter, LPG gas cylinder & regulator, hot air oven, bomb calorimeter etc., and that the laboratory spares could not be serviced or repaired due to non-availability of spares, change in software and technology development. We, therefore, find merit in the claim of the Petitioner and accordingly allow the projected additional capitalization of Rs.154.03 lakh (Rs.21.94 lakh for 2020-21, Rs.57.08 lakh for 2021-22, Rs.52.90 lakh for 2022-23, Rs.22.11 lakh for 2023-24) for Laboratory Instruments under Regulation 25(2)(c) of the 2019 Tariff Regulations.



Replacement of Battery

201. The Petitioner has claimed projected additional capitalization of Rs.250.00 lakh (Rs.80.00 lakh for 2020-21, Rs.80.00 lakh for 2021-22 and Rs.90.00 lakh for 2022-23) towards Replacement of battery under Regulation 25(2)(a) read with Regulation 25(2)(c) of the 2019 Tariff Regulations along with the corresponding unrecovered depreciation value of the assets. The Petitioner has submitted that in case of system blackout, batteries feed the Direct Current (DC) equipment of the plant and switchyard equipment such as Emergency Oil Pump (EOP), Lube Oil Pump (LOP), Jacking Oil Pump (JOP) and Emergency lighting, thereby ensuring the safe shutdown of the plant and safe operation of the switchyard equipment. The Petitioner has submitted that as per OEM, the serviceable life of these battery sets is 8 to 10 years under normal application. It has also stated that the existing 220 V and 48 V battery banks have been supplied by M/s Exide/ M/s HBL and in view of the obsolescence, as confirmed by OEMs and to avoid criticality of the system for plant operation, it is necessary to replace the existing battery sets with new ones for improving the overall reliability of DC system. The Petitioner has, therefore, proposed to replace these battery sets as they will complete their useful life by 2020-2021 and has accordingly proposed the aforesaid additional expenditure for replacement of these battery banks.

202. The matter has been examined. It is observed that the claim of the Petitioner regarding obsolescence of these batteries has not been duly supported by OEM certificate. It is, however, noticed that OEM in its letters has confirmed the life of these batteries to be around 10-12 years and that the batteries form part of the essential safety system against tripping of the plant. As the useful life of these assets (batteries), which gets completed during the 2019-24 tariff period, are not



commensurate with the useful life of the project, the projected additional capitalization for 'Replacement of Battery' is allowed along with adjustment of de-capitalization and depreciation under Regulation 25(2)(a) of the 2014 Tariff Regulations, subject to truing-up based on actuals.

Up-gradation of Coal Handling Plant Main PLC, Up-gradation of DMP PLC, and Up-gradation of Raw Water PLC

203. The Petitioner has claimed projected additional capitalization of Rs.160.00 lakh (Rs.60.00 lakh for PLC of CHP, Rs.50.00 lakh for PLC of DMP and Rs.50.00 lakh for PLC of Raw water) in 2020-21 for Up-gradation of PLC in terms of Regulation 25(2)(c) of the 2019 Tariff Regulations and has submitted the following:

(a) Up-gradation of Coal Handling Plant main PLC: The Programmable Logic Control ("PLC") system consists of Measurement and Closed Loop/ Open Loop Control system ('CLCS' and 'OLCS'), Data bus system, Operator workstations, Engineer workstation, Software including data diagnostics and data bus system with Control and Communication with the process. The workstations Human Machine Interface (HMI) supplied with PLC system is based on Microsoft Windows XP Operating platform. Microsoft has declared Windows XP as obsolete and has withdrawn the support for all XP based systems including automatic security updates. In the absence of such support from Microsoft one cannot update the critical virus definition files and, thus, makes the system vulnerable for the system security. Hence, the system needs up-gradation to higher version of Windows platform to ensure improved reliability and availability. The OEM in its life cycle report on installed PLC -HMI System at CHP has strongly recommended immediate attention on migration from Windows XP to Windows 10 Professional Operating System, owing to technological obsolescence. Accordingly, it is proposed to incur amount of Rs.0.60 crore in 2020-21.

(b) Up-gradation of DMP PLC: The availability of this PLC system is very important for the smooth and normal operation of the generating unit. This system is based on Windows XP operating system and at that time (when the agreement was inked in with M/s BGR Energy) Windows XP operating system was the most popular and reliable Windows platform provided by all leading industrial automation companies for their control system. As Microsoft has withdrawn the support for Windows XP operating system, the Petitioner needs to upgrade the PLC to higher version of Windows. Since spares and services support for the old XP machines are restricted due to component obsolescence,



it is necessary to upgrade the XP based PLC system to higher version of Windows platform. The OEM, in its life cycle report has strongly recommended upgrading the obsolete portion of the system, retaining majority of existing hardware along with panels, etc. Since there is not going to be any major hardware or software modification, the up-gradation work can be carried out in smooth manner in normal planned shutdowns of the plant. It is, therefore, proposed to incur an amount of 0.50 crore in 2020-21 on account of technology obsolescence/non-support by the OEM.

(c) Up-gradation of Raw Water PLC: The workstations (HMI) supplied with PLC system is based on Microsoft Windows XP Operating platform. Microsoft has declared Windows XP as obsolete and has withdrawn the support for all XP based systems including automatic security updates. In the absence of such support from Microsoft, one cannot update the critical virus definition files and, thus, makes the system vulnerable for the system security. Hence, the system needs up-gradation to higher version of Windows platform to ensure improved reliability and availability. HMI systems presently in service at site are quite old and have outlived their service life. Some of these machines are slow in response and hang quite frequently. Spares and services support for the old machines are restricted due to component obsolescence. Workstations presently available in the market are with latest Windows OS and these current machines are not one to one interchangeable with the existing old machines presently in use. The OEM in its life cycle report strongly recommended to upgrade the obsolete portion of the system, retaining majority of existing hardware along with panels, etc. It is, therefore, proposed to incur an amount of Rs.0.50 crore in 2020-21 on account of technology obsolescence/non-support by OEM.

204. The submissions have been considered. It is evident from the submissions of the Petitioner that PLC installed in the Coal Handling Plant, DMP PLC, Raw Water PLC have become obsolete as Microsoft has declared Windows XP as obsolete and had withdrawn its support for all Windows XP based systems. The Petitioner has furnished the OEM recommendations in support of its claim for obsolescence of PLC. In view of this, we allow the total projected additional capitalization of Rs.160.00 lakh in 2020-21 under Regulation 25(2)(c) of 2019 Tariff Regulations.

205. In addition, the Petitioner has also claimed additional capitalization for new schemes like Augmentation of ash handing system, Max DCS version up-gradation (XP) Unit-2, Refurbishment of DM Plant Piping and Tanks, IT Equipment, Re-heater



Modification & MTM installation and Fabrication of expansion bellows, during 2019-20 and 2020-21. In justification of the same, the Petitioner has submitted that these new schemes, could not be completed within the 2014-19 tariff period due to various factors viz. (i) changes in schedule of annual maintenance plan or duration of maintenance plan of units, (ii) limited days of the annual outage and (iii) technical constraints etc. The Petitioner has submitted that such small deviations in capital investment are inevitable and there is nil or insignificant impact on the overall project cost. The Petitioner has further submitted detailed submissions in justification for the additional capitalization claimed for these new schemes during the 2014-19 tariff period. Accordingly, the Petitioner has stated that the capitalization of these schemes has been phased during 2019-20 and 2020-21 and that the same may be allowed under Regulations 25(2)(b) and 25(2)(c) read with Regulation 76 of the 2019 Tariff Regulations.

206. The Respondent, KSEBL has submitted that carry forward of schemes approved for 2014-19 period may not be allowed as there is no provision in the 2019 Tariff Regulations to claim such expenditure for the 2019-24 tariff period.

207. We have examined the matter. The Petitioner has claimed additional capitalization of the aforesaid schemes which are beyond the original scope of work of the project (apparently on the ground of force majeure condition), stating that these schemes have been carried forward from the 2014-19 tariff period on various factors. It has also relied upon the submissions made in respect of these schemes during the 2014-19 tariff period. It is noticed that the claim of the Petitioner for additional capitalization towards 'Augmentation of ash handling system' for Rs.700.13 lakh in 2017-18 and Rs.848.07 lakh in 2018-19 was allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations as the same was for safety of



environment and based on the directions of JSPCB. Since the additional capital expenditure is for compliance with existing law, we allow the same under Regulation 26(1)(a) of the 2019 Tariff Regulations. As regards the additional capitalization claimed for new scheme viz. Max DCS version up-gradation (XP) Unit-2 for Rs.450.00 lakh in 2019-20, it is noticed that the Petitioner had claimed the additional capitalization of Rs.67.52 lakh in 2015-16 and Rs.438.86 lakh 2017-18 mainly on the ground that M/s BHEL had stopped extending its support after mid-2016 and had strongly recommended to upgrade to higher versions. Considering the fact that the Petitioner had incurred the said expenditure under unavoidable circumstances, the additional capital expenditure claimed has been allowed during the years 2015-16 and 2017-18 in this order. Accordingly, we allow the additional capitalization of the said expenditure for Rs.450.00 lakh in 2019-20 under Regulations 25(2)(c) and 25(2)(d) of the 2019 Tariff Regulations, as the same is in continuation of the schemes carried out and claimed during the 2014-19 tariff period.

208. However, in respect of other schemes like Refurbishment of DM Plant Piping and Tanks, IT Equipment, Re-heater Modification & MTM installation and Fabrication of expansion bellows during 2019-20 and 2020-21, it is noticed that the claim of the Petitioner had been disallowed during the 2014-19 tariff period. Also, justification furnished by the Petitioner in support of the claim that it is due to change in law or force majeure are not justifiable. In view of this, the claim of the Petitioner for additional capitalisation of these assets is not allowed.

Projected additional capital expenditure under Regulation 26(1) of the 2019 Tariff Regulations

209. The Petitioner has also claimed projected additional capital expenditure for various assets/ works which are beyond the original scope of work of the project



under sub-clauses (a), (b), (c) and (d) of clause (1) of Regulation 26 of the 2019 Tariff Regulations, which provide for the following:

“26. Additional Capitalisation beyond the original scope

(1) 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 beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) xxxxxx..”

210. The following projected additional capital expenditure claimed by the Petitioner for the assets/ works under Regulation 26(1)(a) of the 2019 Tariff Regulations for the years 2019-20 and 2020-21 are examined below:

Asset/Work	(Rs. in lakh)	
	2019-20	2020-21
Implementation of Automatic Generation Control system	80.00	-
Soak-pit for Station Transformer in switchyard.	40.00	-
Up-gradation of ABT for RRAS & SCED	-	75.00

Implementation of Automatic Generation Control system

211. The Petitioner has claimed projected additional capitalization of Rs.80.00 lakh in 2019-20 towards implementation of Automatic Generation Control (AGC) system under Regulation 26(1)(a) of 2019 Tariff Regulations. In justification for the same, the Petitioner has pointed out that the Commission vide its order dated 28.8.2019 in Petition No.319/RC/2018 (NLDC v NTPC & Ors.) regarding Automatic Generation Control (AGC) implementation in India has issued the following directions:

“34 (i)All thermal ISGS stations with installed capacity of 200 MW and above and all hydro stations having capacity exceeding 25 MW excluding the Run-of-River Hydro Projects irrespective of size of the generating station and whose tariff is determined or adopted by CERC are directed to install equipment at the unit control rooms for transferring the required data for AGC as per the requirement to be notified by the



National Load Despatch Centre (NLDC). NLDC shall notify the said requirements within one month of this order”

212. The Petitioner has submitted that pursuant to the aforesaid order dated 28.8.2019, Power System Operation Corporation Limited (POSOCO)/ NLDC vide letter dated 17.9.2019 has notified to the generating stations, the requirements for AGC connecting equipment along with the list of plants identified for monitoring by NLDC, which includes the generating station of the Petitioner. The Petitioner has further submitted that NLDC in its letter, has sought details from the Petitioner regarding the infrastructure for meeting the specified requirements and the arrangements to be completed by the power plants before 31.1.2020, so that the AGC system is put in place before 28.2.2020, in terms of the Commission's order dated 28.8.2019 in Petition No.319/RC/2018. Based on this, the Petitioner has sought the approval of the additional capital expenditure for Rs.80 lakh in 2019-20 as per initial offer (and based on pilot projects implemented in NTPC generating stations) for implementation of AGC in the generating station of the Petitioner, under Regulation 26(1)(a) of the 2019 Tariff Regulations. Since the projected additional capital expenditure claimed by the Petitioner for Rs.80 lakh in 2019-20 is in terms of the directions of NLDC, based on the Commission's order dated 28.10.2019 in Petition No.319/RC/2019, we allow the same under Regulation 26(1)(a) of the 2019 Tariff Regulations.

Soak-pit for Station Transformer in switchyard

213. The Petitioner has claimed projected additional capitalization of Rs.40.00 lakh in 2019-20 towards 'Soak Pit for Station Transformer in switchyard' under Regulation 26(1)(a) of the 2019 Tariff Regulations. The Petitioner has submitted that 'soak pit' proposed for the station transformer in switchyard is for compliance with Regulation 44 of the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010.



The Petitioner has enclosed copy of CEA report dated 5.6.2018 and has submitted that since there is presently no such arrangement for Station Transformers in the generating station of the Petitioner, the Regional Inspectoral organization of the CEA, had noticed the deficiency (in sl. no. 5 of the report dated 5.6.2018) and has directed the Petitioner for compliance with the same. Therefore, in order to comply with the existing regulations of CEA, the Petitioner has projected additional capital expenditure of Rs.40 lakh in 2019-20 for Soak Pit for station transformer in switchyard under Regulations 26(1)(a) and 26(1)(b) of the 2019 Tariff Regulations.

214. The matter has been examined. Regulation 44 of the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 mandates the following:

“Regulation 44: Use of electricity at voltage exceeding 650 V. Provisions shall be made for suitable oil soak pit and where use of more than 9000 litres of oil in any one oil tank, receptacle or chamber is involved, provision shall be made for the draining away or removal of any oil which may leak or escape from the tank, receptacle or chamber containing the same.”

215. The Regulations of CEA mandating suitable soak oil pit for station transformer was notified during the year 2010, which is much before COD of the generating station (in 2012) and the deficiency has been pointed out by CEA in its report dated 5.6.2018. Therefore, the Petitioner should have complied with requirements of CEA Regulations at the time of COD of the generating station. However, since the claim of the Petitioner is towards compliance with existing law, we allow the projected additional capitalization for Rs.40 lakh in 2019-20 for the said asset/ work. At the time of truing-up, the Petitioner shall submit reasons for the delay/ deferment of the work.

Up-gradation of ABT system for RRAS & SCED

216. The Petitioner has claimed projected additional capitalization of Rs.75 lakh in 2020-21 for up-gradation of ABT system for RRAS & SCED under Regulation



26(1)(a) of 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that it has an online system for monitoring and controlling schedules, as advised by Eastern Region Load Despatch Centre (ERLDC) which is named as Availability Based Tariff (ABT) system. It has stated that the core of ABT System is energy meters, which are of L&T make and the software was developed by M/s CMS computer Ltd. about 8 years ago. The Petitioner has pointed out that with the implementation of Reserve Regulation and Ancillary Services (RRAS) and Security Constrained Economic Dispatch (SCED), the schedule is revised every 15 minute time-block as compared to the earlier revision after 4 time-blocks. It has stated that all revision of schedule has to be updated in the server manually and the same is then reflected in the display screen for necessary action by the operation engineers. The Petitioner has stated that with the implementation of RRAS and SCED, it has become difficult for it to maintain proper manual updating of scheduled generation in ABT system to re-align with ERLDC schedule, as the cushion time for manual entry is no more available. The Petitioner has submitted that the Commission in its order dated 16.7.2018 in Petition No 7/SM/2018, has endorsed the 5-minute scheduling, metering, accounting and settlements and has also implemented the same on a pilot basis and has also recommended that all future procurements of energy meter should have recording at 5-minute interval. In this regard, the Petitioner has stated that at present L&T meters in the generating station of the Petitioner do not have registers to capture the 5-minute data and, accordingly, it has to be replaced with new meters, in which block duration is programmable and can be adjusted from 15 minutes to 5 minutes, to be future ready and compliant with the 5-minute data requirements as may be required in near future. Accordingly, the Petitioner has projected additional capitalization of Rs 75 lakh in 2020-21, as per initial offer, in



accordance with the observations of the Commission in its order dated 16.7.2018 in Petition No. 7/SM/2018 under Regulation 26(1)(a) of the 2019 Tariff Regulations.

217. The matter has been considered. Up-gradation of the existing ABT system for RRAS & SCED is required to comply with the changing scenario, to update the revised schedules from ERLDC. As the requirement for up-gradation of the existing ABT system for RRAS and SCED is pursuant to the Commission's order dated 16.7.2018 in Petition No 7/SM/2018, the claim of the Petitioner for projected additional capitalization of Rs.75 lakh in 2020-21 is allowed under Regulation 26(1)(a) of the 2019 Tariff Regulations.

Facility creation for workmen (Rest Room, Toilet & Drinking water point), Drivers rest room, Drinking water facility and workers pathway

218. The Petitioner has claimed projected additional capitalization of Rs.19.77 lakh in 2019-20 for Drinking water facility, Rs.5.00 lakh in 2020-21 for Drivers rest room, Rs.150.00 lakh in 2020-21 for Workers pathway and Rs.150.00 lakh (Rs.37.50 lakh each from 2020-21 to 2023-24) for Facility creation for Workmen (Rest Room, Toilet & Drinking water point) under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted the following:

a) **Facility creation for workmen (Rest room, Toilet & Drinking water point):** As FGD and Railway system is envisaged, commensurate increase in work force is expected and the existing facilities might fall short or might be far from the construction place as per Factories Act. So, in order to ensure hygienic and safe environment for workers, more Rest rooms, Toilets and drinking water points are needed. An estimated expenditure of Rs.150 lakh as per initial offer, (Rs.37.50 lakh each spread over the years 2020-21 to 2023-24) is proposed to be incurred for development of such facilities.

b) **Workers Pathway:** For protection from heat in summer and rain during monsoon season for workers commuting from Gate house to workplace with distance ranging from 2-5 kms, two sitting sheds between Raahi bridge and Aahar-3 (CHP) are needed. Also, long sheds between Gate house-2 to BTG area and between material gate to technical building parking area are required. This would ensure proper working environment for workers. An estimated



expenditure of Rs.150 lakh is initially proposed to be incurred in 2020-21 for development of such facilities. The above requirements are for compliance with the Section 18, Section 19 and Section 47 of the Factories Act, 1948, which mandate to provide drinking water facilities, toilets, shelters, rest rooms and lunchrooms in a factory.

219. The Petitioner has referred to Section 18, Section 19 and Section 47 of the Factories Act, 1948, which mandate to provide drinking water facilities, toilets, shelters, rest rooms and lunchrooms in a factory and has claimed the projected additional capitalization of these assets/ works under Regulation 26(1)(b) of the 2019 Tariff Regulations. In our view, the additional expenditure claimed by the Petitioner is in the nature of revenue expenditure and the same can be met from the O&M expenses allowed to the generating station under the 2019 Tariff Regulations. Accordingly, the projected additional capital expenditure of Rs.19.77 lakh in 2019-20 for Drinking water facility, Rs.5.00 lakh in 2020-21 for Drivers rest room, Rs.150.00 lakh during 2020-21 for Workers pathway and Rs.150.00 lakh (Rs.37.50 lakh each for the years 2020-21 to 2023-24) for Facility creation for workmen (Rest room, Toilet & Drinking water point) is not allowed.

220. The Petitioner has also claimed projected additional capitalization for various assets/ works like BCN 7 (Yard conveyor) modification, Chute Interconnection in 4A to 6B & 4B to 6A (Rs.5 lakh in 2021-22), Common C.W. Pump for Units-1&2 (Rs.300 lakh in 2021-22), Economiser Coil Repairing Bay with Shed (Rs.600 lakh in 2020-21), Installation of Suspended Magnet (Rs.52 lakh in 2019-20), Workshop for Electrical Maintenance Department (EMD) (Rs.5 lakh in 2020-21) and certain Minor assets, under Regulation 26(1)(c) (*Force Majeure events*) of the 2019 Tariff Regulations and has submitted the following:

- a) **BCN 7 (Yard Conveyor) Modification:** The Petitioner has submitted that it has observed during stacking/reclaiming from mid-zone 3 and zone 4, M2 motor trips and, thereafter, it is required to be manually unloaded before it can



be restarted, hampering the operation of Coal Handling Plant (CHP). The root cause analysis was carried out by in-house diagnostic team and it was found that inadequate tension in the belt, as the primary cause for such tripping and it was recommended to add extra counterweight to overcome the problem and structural changes to accommodate the extra counterweight. The Petitioner seeks liberty to allow the Petitioner to approach the Commission in case the capital expenditure becomes unavoidable for reliable operation of the plant.

- b) **Chute Interconnection in 4A to 6B & 4B to 6A:** Normally CHP is equipped with two parallel conveyors with interconnectivity for ensuring redundancy. However, as per existing configuration, the belt conveyors, just after the crushers, have no cross interconnectivity between them leading to no interchange of coal flow from A stream to B Stream or vice versa. Therefore, presently the system reliability depends upon 3 streams, i.e., (BCN 4A/B, 6A/B & 8A/B) which are in series. It was envisaged to have 2nd reversible stacker-cum-reclaimer in the second phase of the project along the BCN 5- the Yard conveyor and discharge chutes extending up to BCN 6A/B. Since, Phase 2 of the project looks uncertain; it is now proposed to construct a new interconnecting chutes between BCN 4A/B and 6A/B to improve the overall BCN-4A/6A & 4B/6B route availability from 65% (as per 2019 data) to 85% while stacking. Accordingly, the expenditure of Rs.5 lakh is projected for year 2021-22.
- c) **Common C.W. Pump for Units-1&2:** Each unit of the generating station is having three numbers of Cooling Water (CW) pumps with all of them in running configuration without any standby. So, the non-availability of CW Pump has direct consequence on the reliability of the generation unit. This standby pump will also ensure regular preventive maintenance of CW Pumps and, hence, unit reliability will increase. Accordingly, the additional capitalization projected for the standby pump is Rs.300 lakh for 2021-22.
- d) **Economiser Coil Repairing Bay with Shed:** Economiser coils suffer maximum erosion loss of tubes due to coarse high ash content in coal ranging from 40% to 46%. Because of heavy erosion, the units have suffered 16 numbers of Boiler tube leakages at economizer section since the COD of both the units. During shutdowns, these coils need to be taken out from the boiler for safe and careful inspection and repair. Thus, to facilitate safe and thorough inspection of the economizer coil, a maintenance bed is required for positioning of the damaged coils for inspection, repair, testing and proper stacking in the bay, for future use, in successive overhauls. The projected additional capital expenditure is Rs.600 lakh to be incurred in 2020-21, for construction of above facility.
- e) **Installation of Suspended Magnet:** As part of the CHP, there are Inline Magnetic Separators (ILMS) (1 number on each belt) installed at the discharge



point of conveyor (BCN-3A/3B) which discharges coal to the crusher (Ring Granulators). In order to control the frequent tripping of conveyor due to MDT sensing both types of metals and to eliminate the possibility of metal pieces entering the crusher, it is required to install a trolley mounted suspended electromagnet prior to the MDT. Therefore, the projected additional capital expenditure to be incurred is Rs.52 lakh in 2019-20, for the procurement and installation of suspended magnet.

- f) **Workshop for Electrical Maintenance Department (EMD):** Due to space constraint at the present common workshop, there is no fixed allocated space for maintenance activities of electrical department. The availability of centralized space shall facilitate the overhauling of all types of High Tension & Low Tension motors, 400 kV breakers and other electrical equipment's at single location, which would help the Petitioner to improve the quality of work, ensure safe environment for workers and also to manage resources, ultimately leading to lower downtime. In view of the above, a workshop for EMD is proposed to be set up at a projected additional capital expenditure of Rs.5 lakh in 2020-21.
- g) **Minor assets like Covered parking block at township, Industrial kitchen setup at MA-2, Modernization of gym, Rooftop cafeteria and Community hall, Six seater dining table for workers, Electric vehicle (cart) for Staff visitors movement:** Many minor items highlighted below have life cycle of 7-8 years and these items need recurrent replacement. The provision of compensation allowance which was included in the 2014 Tariff Regulations to compensate for minor asset addition, has now been removed in the 2019 Tariff Regulations and, thus, there is no specific provision to permit the expenses for minor asset additions.

221. It is observed that the projected additional capital expenditure claimed by the Petitioner in respect of these assets/ works [(a) to (g) above], mainly pertain to addition of new equipment to the existing set-up either as a standby or for incorporation of new facilities. Though the Petitioner has claimed additional capitalization of these works/ assets based on 'force majeure' conditions, it has not established the presence of any such force majeure events to consider the claims made as above. Since no case for force majeure events have been made out by the Petitioner, the claim for assets/ works like BCN 7 (Yard conveyor) modification, Chute Interconnection in 4A to 6B & 4B to 6A, Common C.W. Pump for Units-1&2,



Economiser Coil Repairing Bay with Shed, Installation of Suspended Magnet, Workshop for Electrical Maintenance Department (EMD) and certain Minor assets, claimed under Regulation 26(1)(c) of the 2019 Tariff Regulations is not allowed. Also, the prayer of the Petitioner to grant liberty to approach the Commission in case the additional capital expenditure for BCN 7 (Yard conveyor) modification becomes unavoidable is rejected.

Augmentation of store and Coal pit run-off mechanised Drainage System

222. The Petitioner has claimed projected additional capitalization of Rs.329.26 lakh for Augmentation of store and Rs.399.53 lakh for 'Coal Pit Run-off mechanized drainage system' in 2019-20 under Regulation 26(1)(c) of the 2019 Tariff Regulations. The Petitioner has submitted the following as regards augmentation of store:

"These are the 'carry forward schemes beyond the original scope of work'. Few schemes that were envisaged for the control period 2014-19 could not be completed within the control period due to various reasons beyond the control of the Petitioner. The capitalization towards these schemes got carried forward to control period 2019-24. The relevant regulations under which the capitalization for such schemes are Regulation 26(1)(c) read with Regulation 3(25) and Regulation 76 of the 2019 Tariff Regulations. The above mentioned items are claimed under specific provisions of the 2019 Tariff Regulations and justifications are provided in the truing-up section. In view of above, it is prayed that the Commission may approve the proposed additional capitalization for control period 2019-24 as proposed."

223. The Petitioner has not demonstrated the existence of any force majeure condition for justifying the additional capitalization claimed in respect of this augmentation of store, which has been carried forward from the 2014-19 tariff period. It is pertinent to mention that the claim of the Petitioner for additional capitalization of this asset/ work has not been allowed under 'force majeure' in the 2014-19 tariff period. In view of this, the projected additional capital expenditure of Rs.329.26 lakh claimed for 'Augmentation of store' is not allowed.



224. As regards the claim for Coal Pit run-off mechanized drainage system during 2014-19 tariff period, the same has been allowed in paragraph 94 of this order.

225. In view of this decision, the claim of the Petitioner for projected additional capitalization of Rs.399.63 lakh in 2019-20 is allowed under Regulation 26(1)(c) of the 2019 Tariff Regulations.

Boundary wall under pass area

226. The Petitioner has claimed projected additional capitalization of Rs.100.00 lakh in 2020-21 towards 'Boundary wall under pass area' under Regulation 26(1)(d) of the 2019 Tariff Regulations and has stated the following:

"The Intelligence Bureau (IB) conducted a security inspection at plant premises in November 2018 and submitted a report on the same to MPL. The IB report recommended that barbed wire fence on both sides of the village road passing through the middle of plant may be replaced with masonry perimeter wall on both sides with provision of concertina coil overhang. Also, concertina coil overhang may be provided all over the perimeter wall. This direction ensures safety of plant from danger of intrusion. Accordingly, additional capitalization has been proposed and the same falls within the scope of Regulation 26 (1)(d) of the 2019 Tariff Regulations. The estimated cost of Rs. 100 lakh for the work is proposed to be incurred in 2020-21 and the Commission may kindly approve the same."

227. The Petitioner has enclosed the recommendations of IB in support of its claim for additional capital expenditure towards 'Boundary wall under pass area' in 2020-21. Since the recommendations of IB for higher security and safety of the plant, is statutory in nature, we allow the projected additional capital expenditure claimed by the Petitioner for Rs.100.00 lakh for Boundary wall for pass area in 2020-21, under Regulation 26(1)(d) of the 2019 Tariff Regulations.

Automation of Boom Barrier

228. The Petitioner has claimed projected additional capitalization of Rs.20.00 lakh in 2020-21 towards 'Automation of Boom Barrier' under Regulation 26(1)(d) of the 2019 Tariff Regulations and has submitted the following:



“The automatic boom barrier would offer security at the exit and the entry points of the plant. Automatic barrier can be used to successfully control pedestrian and vehicle traffic. It can be used to achieve better security. In order to ensure higher security and safety of the plant ‘boom barrier’ is required. The cost of the proposal is Rs. 20 lakh to be incurred in 2020-21 and the Commission may kindly approve the same.”

229. Regulation 26(1)(d) of the 2019 Tariff Regulations provides for capitalization of additional expenditure (projected or incurred) required for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security. The Petitioner, in this case, has not established through documentary evidence that the additional capital expenditure is required to be incurred based on the advice or direction of any Indian Government Instrumentality or statutory authorities. In the absence of any justification, the claim of the Petitioner for additional capitalization of Rs.20.00 lakh in 2020-21 is not allowed.

CCTV Installation

230. The Petitioner has claimed projected additional capitalization of Rs.550.00 lakh (Rs.200.00 lakh in 2020-21 Rs.200.00 lakh in 2021-22 Rs.150.00 lakh in 2022-23) for installation of CCTV all around the generating station, under Regulation 26(1)(d) of the 2019 Tariff Regulations and has submitted as under:

“The surrounding areas of MPL plant have strongholds of CPI (maoist) cadre. Also, there is always possibility of damage to the MPL from disgruntled subverted outsourced workers/employees during strikes/agitation. There are several incidents of such disturbances in the past. So, in order to ensure safety of plant a proper monitoring of plant premises is needed. CCTV installation all over the plant may help averting any unwanted incidents and also activities of people in and around plant can easily be monitored. Accordingly, additional capitalization has been proposed for an estimated cost of Rs.550 lakh during the period 2020-23 in a phased manner and the Commission may kindly approve the same.”

231. The Petitioner has not established through documentary evidence that the additional capital expenditure is required to be incurred based on the advice or direction of any Indian Government Instrumentality or statutory authorities. In the



absence of any justification, the claim of the Petitioner for additional capitalization of Rs.550.00 lakh during the period 2020-23 for this asset/ work is not allowed.

Economiser platform for both boilers

232. The Petitioner has claimed projected additional capitalization of Rs.350.00 lakh in 2020-21 towards 'Economiser platform for both boilers' under Regulation 26(1)(d) of the 2019 Tariff Regulations and has submitted as under:

"During annual outage most of the maintenance works are undertaken in the economizer and LTSH region due to maximum erosion of coils. Due to space and design constraints through inspection, lifting of multiple coils and carrying out repair activity becomes difficult. Moreover, due to multiple activities being carried out simultaneously, it becomes unsafe for the workers and employees. In view of above constraint and safety of the workmen, it is proposed to fabricate permanent structure to create additional space for the coil removal, inspection, immediate repair and replacement of coil in the boiler. Additional space shall enhance safety to the workplace and thereby avoiding any unwanted eventuality. In addition, it will reduce downtime for peak, off-peak availability. This expenditure is admissible in terms of Regulations 26(1)(d) of the 2019 Tariff Regulations and the cost of the work for Rs.350 lakh is proposed to be incurred in 2020-21 and the Commission may kindly approve the same."

233. The Petitioner has submitted that the additional capital expenditure is required for better safety/ security of plant based on the advice or direction of any Indian Government Instrumentality or statutory authorities. In view of the above, the projected additional capitalization claimed for Rs.350.00 lakh in 2020-21 for the asset/ work is allowed. The Petitioner is however directed to furnish at the time of truing up of tariff, the relevant advice or direction of any Indian Government Instrumentality or statutory authority to substantiate the said claim.

Mini Fire Tender

234. The Petitioner has claimed projected additional capitalization of Rs.25.00 lakh in 2020-21 for Mini Fire Tender under Regulation 26(1)(d) of the 2019 Tariff Regulations. Reason as submitted by the Petitioner is as under:

"The fire fighting system was installed as per IS 3034 and Tariff Advisory Committee TAC guidelines at MPL. During the forest fire (Both sides of boundary wall of plant) i.e.



grass fire inside and outside of plant, it is very difficult to extinguish with heavy Fire Tender due to narrow approach. The water intake is about 1.5 km away from the main plant and the passage / bridge was made for Light Motor Vehicle (LMV) only. To cater to fire in that area an LMV mounted fire tender / Mini fire tender is required. It is submitted that MPL plant is stretched over a vast area. There are many spots where large fire tender finds it difficult to reach. Therefore, a mini fire tender is required for places where large fire tender is unable to reach during emergency. Also, this is compliance to IS 3034 in respect to safety of the plants and its workers. The estimated cost of Rs.25 lakh is to be incurred in 2019-20 and the said expenditure fall within the scope and purview of Regulation 26(1)(d) of the 2019 Tariff Regulations.”

235. The Petitioner has not established through documentary evidence that the additional capital expenditure is required to be incurred based on the advice or direction of any Indian Government Instrumentality or statutory authorities. However, considering the fact that the asset is required for the safe operation of the plant, we allow the projected additional capital expenditure claimed. The Petitioner is directed to furnish, at the time of truing up of tariff, the relevant advice or direction of any Indian Government Instrumentality or statutory authority to substantiate the said claim.

Road along Boundary wall

236. The Petitioner has claimed projected additional capitalization of Rs.450.00 lakh (Rs.150.00 lakh in 2020-21, Rs.150.00 lakh in 2021-22, Rs.100.00 lakh in 2022-23 and Rs.50.00 lakh in 2023-24) for 'Road along Boundary wall' under Regulation 26(1)(d) of the 2019 Tariff Regulations and has submitted as under:

“The Petitioner has submitted that Intelligence Bureau (IB) conducted security inspection at plant premises in November 2018. IB submitted its security inspection report to MPL giving some instructions for ensuring safety and security of the plant. IB perceived threat from the surrounding areas since it is having stronghold of CPI (Maoist) cadre. Further, Gate blocking/agitations by the Plant Affected People are very common features. IB in its report observed that the patrolling track along the perimeter wall is not metaled. It is away from the perimeter at several points and it is not continuous. The continuity of motorable patrolling track is essential for reaching of security personnel and fire tenders at the remotest areas. It recommended laying of metaled patrolling track all along the perimeter for seamless movement of security personnel and fire tenders. It is needed for higher security and safety of the plant as directed by Intelligence Bureau responsible for national or internal security. The copy of inspection report by IB is already enclosed. The estimated cost of Rs.450 lakh and is proposed to be incurred during the period 2021-24 covering the periphery road of 18



km. The said expenditure falls within the scope and purview of Regulation 26(1)(d) of the 2019 Tariff Regulations and hence the same may be allowed.”

237. The Petitioner has enclosed the recommendations of IB in support of its claim for capitalization of the expenditure towards Road along Boundary wall during the period 2020-24. Since the recommendations of IB for higher security and safety of the plant, is statutory in nature, we allow the projected additional capital expenditure claimed by the Petitioner for Rs.450.00 lakh during 2020-24 for Road along Boundary wall under Regulation 26(1)(d) of the 2019 Tariff Regulations.

Gate House Near JNT, E-security system, Construction of high-rise safety platform and walkways

238. The Petitioner has claimed projected additional capitalization of Rs.120.70 lakh in 2019-20 for Gate house near JNT, Rs.248.99 lakh (Rs.148.99 lakh in 2019-20 and Rs.100.00 lakh in 2020-21) for E-security system and Rs.300.00 lakh in 2019-20 for Construction of high-rise safety platform and walkways under Regulation 26(1)(d) of the 2019 Tariff Regulations and has submitted the following:

“These are the ‘carry forward schemes beyond the original scope of work’. It is submitted that few schemes that were envisaged for the control period 2014-19 could not be completed within the control period due to various reasons beyond the control of the Petitioner. The capitalization towards these schemes got carried forward to control period 2019-24. The relevant regulations under which the capitalization for such schemes are Regulation 26(1)(c) read with Regulation 3(25) and Regulation 76 of the 2019 Tariff Regulations. The above mentioned items are claimed under specific provisions of the 2019 Tariff Regulations and justifications are provided in the truing-up section. In view of above, it is prayed that the Commission may approve the proposed additional capitalization for control period 2019-24 as proposed.”

239. The Petitioner has not established through documentary evidence that the additional capital expenditure is required to be incurred based on the advice or direction of any Indian Government Instrumentality or statutory authorities. In the absence of any justification, the claim of the Petitioner for additional capitalization of Rs.120.70 lakh in 2019-20 for Gate house near JNT, Rs.248.99 lakh (Rs.148.99 lakh



in 2019-20 and Rs.100.00 lakh in 2020-21) for E-security system and Rs.300.00 lakh in 2019-20 for Construction of high-rise safety platform and walkways is not allowed.

De-capitalization

240. The projected de-capitalization claimed by the Petitioner in Form-1(i) is as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1138.34	2927.46	2110.64	1119.45	727.30

241. Based on the above discussion, the projected additional capitalization and de-capitalization allowed for the purpose of tariff is summarized as under:

<i>(Rs. in lakh)</i>						
Sl. No.	Head of work / Equipment	2019-20	2020-21	2021-22	2022-23	2023-24
1	Cost of Land & Site	3881.64	0.00	0.00	0.00	0.00
2	GCW- Boundary wall	160.00	0.00	0.00	0.00	0.00
3	Railway Package inclusive of IDC	0.00	68506.24	0.00	0.00	0.00
4	Laboratory Instruments	0.00	21.94	57.08	52.90	22.11
5	MAX DCS Version up-gradation (XP) Unit 2	450.00	0.00	0.00	0.00	0.00
6	Replacement of Battery	0.00	80.00	80.00	90.00	0.00
7	Up-gradation of CHP Main PLC	0.00	60.00	0.00	0.00	0.00
8	Up-gradation of DMP PLC	0.00	50.00	0.00	0.00	0.00
9	Up-gradation of Raw Water PLC	0.00	50.00	0.00	0.00	0.00
10	Up-gradation of ABT for RRAS & SCED	0.00	75.00	0.00	0.00	0.00
11	Implementation of AGC	80.00	0.00	0.00	0.00	0.00
12	Augmentation of Ash handling	1416.80	500.00	0.00	0.00	0.00
13	Boundary wall under pass area	0.00	100.00	0.00	0.00	0.00
14	Road along Boundary wall (Periphery road 18 kms)	0.00	150.00	150.00	100.00	50.00
15	Coal Pit Run-off mechanised Drainage system	399.53	0.00	0.00	0.00	0.00
16	ID fan Motor with VFD	0.00	450.00	450.00	450.00	450.00
17	Economiser Platform	0.00	350.00	0.00	0.00	0.00
18	Centrifugal compressor & motor for BTG	0.00	350.00	400.00	0.00	0.00



Sl. No.	Head of work / Equipment	2019-20	2020-21	2021-22	2022-23	2023-24
19	Centrifugal compressor for Ash Plant	0.00	300.00	300.00	300.00	300.00
20	Mini Fire Tender	0.00	25.00	0.00	0.00	0.00
	Total additional capitalization (A)	6387.97	71068.18	1437.08	992.9	822.11
	Projected de-capitalization (B)	1138.74	2927.46	2110.64	1119.45	727.30
	Net capitalization allowed (A-B)	5249.63	68140.72	-673.56	-126.55	94.81

Discharge of liabilities

242. The Petitioner has not claimed any discharge of liabilities during the 2019-24 tariff period.

Normative IDC

243. The Petitioner has claimed following amounts of normative IDC on excessive equity and on actual loan:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative IDC on Excess equity	735.90	446.12	337.89	185.90	158.15
Normative IDC on actual loan	79.84	39.84	31.94	0.32	0.10

244. In terms of the discussions and decision in paragraph 105 to paragraph 112 above, the normative IDC allowed for the 2019-24 tariff period are as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
	98.26	1093.21	22.11	15.27	12.65

Capital Cost allowed for the 2019-24 tariff period

245. Based on the opening capital cost and the projected additional capital expenditure allowed in the preceding paragraphs, the capital cost allowed for the 2019-24 tariff period is as below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	478969.24	484317.13	553551.06	552899.60	552788.32
Net additional capital expenditure allowed within original scope of work of the project	3353.30	66290.72	-1523.46	-526.55	-255.19



Net additional capital expenditure allowed beyond the original scope of work of the project	1896.33	1850.00	850.00	400.00	350.00
Normative IDC allowed	98.26	1093.21	22.11	15.27	12.65
Total net additional capital expenditure allowed	5347.89	69233.93	(-) 651.45	(-) 111.28	107.46
Capital Cost as on 31st March of the year	484317.13	553551.06	552899.60	552788.32	552895.78

246. Regulation 18 of the 2019 Tariff Regulations provides as under:

“18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. 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.”*

247. Gross loan and equity amounting to ₹335278.47 lakh and ₹143690.77 lakh respectively as on 31.3.2019 as determined vide para 122 and 125 above, has been considered as the gross loan and equity as on 1.4.2019. Based on the above quoted Regulation, the debt-equity ratio of 70:30 has been applied on year wise allowed additional capital expenditure for arriving at the additions to loan and equity during each year of the tariff period 2019-24. The debt-equity ratio considered for the purpose of computation of tariff for 2019-24 tariff period is as follows:

	<i>(Rs in lakh)</i>					
	Capital cost as on 1.4.2019	(in %)	Additional Capitalization during 2019-24	(%)	Capital cost as on 31.3.2024	(%)
Debt	335278.47	70.00	51748.58	70.00	387027.05	70.00
Equity	143690.77	30.00	22177.96	30.00	165868.73	30.00
Total	478969.24	100.00	73926.54	100.00	552895.78	100.00

Return on Equity

248. Regulation 30 of 2019 Tariff Regulations provide as below:

“30. Return on Equity:



(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-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 return on equity in respect of additional capitalization after cutoff date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%;

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% 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) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the 61 requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%: Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%.

249. Regulation 31 of the 2019 Tariff Regulations provides as under:

“31. Tax on Return on Equity

1. The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from



other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded 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. Illustration- (i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

Rate of return on equity = $15.50/(1-0.2155) = 19.758\%$ (ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;

(b) Estimated Advance Tax for the year on above is Rs 240 crore;

(c) Effective Tax Rate for the year 2019-20 = Rs 240 crore/Rs 1000 crore = 24%; (d) Rate of return on equity = $15.50/(1-0.24) = 20.395\%$. (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 2019-24 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 customers, as the case may be, on year to year basis.

250. For calculation of ROE in respect of works within the original scope of work but beyond cut-off date, the Petitioner has grossed up the base rate with MAT rate of 2019-20 (17.472%) for the entire 2019-24 tariff period. The Petitioner has also grossed up the weighted average rate of interest with the same MAT rate (17.472%) for calculation of ROE in respect of the additional capitalization beyond the original scope of work.

251. As regards computation of ROE, Regulation 31 of the 2019 Tariff Regulations, as quoted above, specifically provides for grossing up of the base rate allowed under



Regulation 30 of the 2019 Tariff Regulations. The base rate for return on equity (i.e. for works within the original scope of the project) for the generating station is 15.50% as per Regulation 30 of the 2019 Tariff Regulations. The same has been allowed for grossing up with the MAT rate of 17.472% for all the years of the 2019-24 tariff period, subject to truing up.

252. Regulation 31 of the 2019 Tariff Regulations provides for grossing up of the base rate and does not provide for grossing up of weighted average rate of interest to be used for ROE for additions beyond the original scope of the project. Accordingly, in line with Regulation 31 of the 2019 Tariff Regulations, ROE has been allowed as under:

A. Return on Equity allowed at base rate for works within the original scope of project:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Notional Equity	143690.77	144715.59	164921.86	164479.80	164340.90
Addition due to additional capitalisation	1024.82	20206.27	-442.07	-138.90	-86.77
Closing Equity	144715.59	164921.86	164479.80	164340.90	164254.13
Average Equity	144203.18	154818.73	164700.83	164410.35	164297.51
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year (MAT of 2019-20 applied for the period)	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity	18.782%	18.782%	18.782%	18.782%	18.782%
A: Return on Equity allowed at base rate	27083.53	29077.29	30933.29	30878.74	30857.54

B. Return on Equity allowed at Weighted Average Rate of Interest (WARI) for additional capitalisation beyond the original scope of project:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Net Opening Equity	0.00	579.55	1143.45	1390.08	1495.60
Add: Increase in equity due to addition during the year / period	579.55	563.90	246.63	105.52	119.01
Net closing Equity	579.55	1143.45	1390.08	1495.60	1614.61
Average Equity	289.77	861.50	1266.77	1442.84	1555.10
WARI	8.79%	8.79%	8.79%	8.79%	8.79%
B: Return on Equity allowed at WARI	25.47	75.73	111.35	126.83	136.69



253. Thus, the total ROE allowed for the generating station is as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
A: Return on Equity allowed at base rate	27083.53	29077.29	30933.29	30878.74	30857.54
B: Return on Equity allowed at WARI	25.47	75.73	111.35	126.83	136.69
Total Return on Equity allowed (A+B)	27109.00	29153.01	31044.64	31005.56	30994.24

Interest on Loan

254. Regulation 32 of the 2019 Tariff Regulations provides as under:

“32. Interest on loan capital:

(1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

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

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

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

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

255. The salient features for computation of interest on loan are summarized below:

a) The gross normative loan amounting to Rs.335278.47 lakh has been considered as on 1.4.2019;



b) Cumulative repayment of loan amounting to Rs.164733.83 lakh as on 31.3.2019 has been considered as on 1.4.2019;

c) The repayment for the year has been considered equal to the depreciation allowed for that year;

d) Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest for 2018-19, which is subject to trueing-up.

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

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	335278.47	339021.99	387485.74	387029.72	386951.83
Cumulative Repayment up to Previous Year	164733.83	188876.16	214160.52	241482.36	269161.00
Net Loan-Opening	170544.64	150145.83	173325.22	145547.36	117790.83
Addition due to additional capitalisation	3743.53	48463.75	-456.02	-77.89	75.22
Repayment during the year	24588.73	26492.50	28243.13	28223.66	28223.56
Less: Repayment adjustment on account of de-capitalization	446.40	1208.14	921.29	545.02	390.71
Net Repayment	24142.34	25284.36	27321.84	27678.64	27832.85
Net Loan-Closing	150145.83	173325.22	145547.36	117790.83	90033.20
Average Loan	160345.23	161735.52	159436.29	131669.10	103912.02
Weighted Average Rate of Interest on Loan	8.790%	8.790%	8.790%	8.790%	8.790%
Interest on loan	14094.35	14216.55	14014.45	11573.71	9133.87

Depreciation

257. Regulation 33 of the 2019 Tariff Regulations provides as under:

“33. Depreciation

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. 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: 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 a 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

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

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or 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-I to these regulations for the assets of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*

(6) *In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.*

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

(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.*

258. In line with Regulation 33 of the 2019 Tariff Regulations, the cumulative depreciation amounting to Rs.164733.83 lakh as on 31.3.2019 has been considered for the purpose of tariff. Further, the value of freehold land included in the average capital cost has been adjusted while calculating depreciable value for the purpose of tariff. Accordingly, depreciation has been calculated as under:



(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block (A)	478969.24	484317.13	553551.06	552899.60	552788.32
Addition due to Projected additional capitalisation (B)	5347.89	69233.93	(-)651.45	(-)1111.28	107.46
Closing Gross Block (C)	484317.13	553551.06	552899.60	552788.32	552895.78
Average Gross Block (D) = [(A+C)/2]	481643.18	518934.09	553225.33	552843.96	552842.05
Value of Freehold land included in Gross Block (E)	17513.13	17513.13	17513.13	17513.13	17513.13
Depreciable value (F) = [(D-E) x 90%]	417717.05	451278.87	482140.98	481797.75	481796.03
Remaining depreciable value at the beginning of the year (G) = [F - 164733.83]	252983.22	262402.70	267980.46	240315.39	212635.03
Number of completed years at the beginning of the year (H)	7.58	8.58	9.58	10.58	11.58
Balance useful life at the beginning of the year (I)	17.42	16.42	15.42	14.42	13.42
Rate of Depreciation	5.1052%	5.1052%	5.1052%	5.1052%	5.1052%
Depreciation (K)	24588.73	26492.50	28243.13	28223.66	28223.56
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (L) = [K + Cumulative depreciation at the end of previous year*]	189322.56	215815.06	244058.19	272281.85	300505.41
Less: Depreciation adjustment on account of de-capitalization (M)	446.40	1208.14	921.29	545.02	390.71
Net Cumulative depreciation at the end of the year (N)	188876.16	214160.52	241482.36	269161.00	296993.84

* Note: The Cumulative Depreciation at the end of 2018-19 is Rs.164733.83 lakh.

259. The depreciation allowed as above is subject to revision at the time of truing up of tariff for 2019-24 tariff period.

Unrecovered Depreciation on De-capitalisation

260. The Petitioner has claimed following amounts of unrecovered depreciation for the respective financial years of 2019-24 tariff period

(Rs. in lakh)

2020	2021	2022	2023	2024	Total
538.14	1297.37	813.33	378.54	207.54	3234.92

261. In line with our discussion and decision on this issue, in paragraph 133 and paragraph 134 of this order, the prayer of the Petitioner to allow the recovery of



unrecovered depreciation (in respect of asset not in use) for the 2019-24 tariff period is not allowed, as the same is not in conformity with the provisions of the 2019 Tariff Regulations.

O&M expenses

262. The O&M expenses claimed by the Petitioner for the 2019-24 tariff period are as below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M Expenses as per Regulation 35(1)(i) of the 2019 Tariff Regulations	23635.50	24465.00	25326.00	26218.50	27132.00
Water Charges as per Regulation 35(1)(6) of the 2019 Tariff Regulations	1930.35	2117.58	2329.34	2562.28	2826.22
Security expenses as per Regulation 35(1)(6) of the 2019 Tariff Regulations	808.07	882.05	956.60	1037.45	1125.15
Capital spares as per Regulation 35(1)(6) of the 2019 Tariff Regulations	170.02	55.00	850.00	0.00	0.00
Rental and Conveyance Expenses in lieu of 2 nd township	75.65	79.43	83.40	87.57	91.95
O&M expenses for RO Plant	593.40	623.07	880.57	924.60	970.83
Total O&M Expenses	27212.99	28222.13	30425.91	30830.40	32146.15

263. The Respondent KSEBL has contended that claim for additional O&M expenses in lieu of 2nd township and Ash disposal expenses is not in line with the 2019 Tariff Regulations and, therefore, may be rejected. It has further contended that there is no provision under the 2019 Tariff Regulations to claim additional O&M expenses to run the Reverse Osmosis plant and the same may also be disallowed.

264. Regulation 35(1)(i) of the 2019 Tariff Regulations provide the following Normative O&M expense norms for 500 MW series for coal based generating stations:

<i>(Rs. lakh/MW)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
22.51	23.30	24.12	24.97	25.84



265. In terms of Regulation 35(1)(i) of the 2019 Tariff Regulations, the Petitioner has claimed the following Normative O&M expenses for the 2019-24 tariff period:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
23635.50	24465.00	25326.00	26218.50	27132.00

266. The Normative O&M expenses claimed by the Petitioner is in accordance with Regulation 35(1)(i) of the 2019 Tariff Regulations and hence allowed.

Water Charges

267. Regulation 35(6) of the 2019 Tariff Regulations provide as under:

“(6) The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:

Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system, subject to prudence check. The details regarding the same shall be furnished along with the petition;

xxxxx

268. The Petitioner has claimed Water charges (on projected basis) in terms of Regulation 35(6) of the 2019 Tariff Regulations as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1930.35	2117.58	2329.34	2562.28	2826.22

269. In support of the projected water charges claimed, the Petitioner has furnished the following computations:

		2019-20	2020-21	2021-22	2022-23	2023-24
Gross generation	MU	7839.72	7818.30	7818.30	7818.30	7839.72
Specific Raw water Consumption for FY 2018-19	m ³ /MWh	2.31	2.31	2.31	2.31	2.31
Total Raw Consumption	m ³	18142383	18092814	18092814	18092814	18142383
Rate of Raw water charges	Rs./m ³	10.64	11.70	12.87	14.16	15.58
Total Raw water Expenses	Rs. in lakh	1930.35	2117.58	2329.34	2562.28	2826.22



270. The Petitioner has submitted that the Water charges are based on the gross generation during the year and the estimated Specific Raw water consumption per unit. It has submitted that Specific Raw water consumption in 2018-19 is 2.31 m³ per Megawatt hour (MWh) which is below the Ministry of Environment & Forest guidelines and the same has been projected during the 2019-24 tariff period. The Petitioner has submitted that DVC vide its Office Memorandum dated 23.7.2019 had revised the Water tariff for Industrial consumers (drawing water from reservoir/ river) including the Petitioner from Rs.5.7/kl to Rs.10.64/kl, with an annual escalation of 10% effective from 1.4.2019. Considering the revised tariff including the annual escalation and Water consumption at Specific Raw water consumption of 2.31 m³/MWh, the Petitioner has prayed that the Commission may approve the projected Raw Water charges for the 2019-24 tariff period as claimed. The Petitioner has also furnished the copy of the DVC OM dated 23.7.2019 along with the communication made by the Petitioner with DVC.

271. Considering the fact that Water charges projected by the Petitioner for the 2019-24 tariff period is based on actual consumption of water during the year 2018-19 and the tariff rates specified by DVC for water, we allow the projected water charges claimed by the Petitioner for the 2019-24 tariff period. However, the projected water charges allowed are subject to truing-up, based on prudence check of the actual water charges paid.

Security Expenses

272. The first proviso to Regulation 35(6) of the 2019 Tariff Regulations provide as under:

“Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;



273. The actual Security expenses incurred by the Petitioner for the 2014-19 tariff period is as under:

(Rs. in crore)

	2014-15	2015-16	2016-17	2017-18	2018-19
Plant Security	5.51	6.44	6.46	6.44	6.96
Other Security related - AMC	0.00	0.02	0.12	0.15	0.35
Total Security Expenses	5.51	6.46	6.59	6.59	7.32

274. The Security Expenses projected by the Petitioner for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Plant Security	754.88	818.39	887.23	961.86	1042.78
Other Security related AMC	38.40	41.64	45.14	48.93	53.05
Total Security Expenses	793.29	860.02	932.37	1010.80	1095.83

275. In addition to the above, the Petitioner has claimed projected additional security expenses for the following:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Issuance of smart card	5.00	5.50	6.05	6.66	7.32
Purchase of Security gadgets	8.00	8.80	9.68	10.65	11.71
AMC for Turnstile	1.58	6.93	7.62	8.39	9.22
AMC for Boom Barrier	0.20	0.80	0.88	0.97	1.06
Total	14.78	22.03	24.23	26.66	29.32

276. Accordingly, the total Security Expenses (on projection basis) claimed by the Petitioner in terms of Regulation 35(1)(6) of the 2019 Tariff Regulations is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Security Expenses	793.29	860.02	932.37	1010.80	1095.83
Additional Security Expenses	14.78	22.03	24.23	26.66	29.32
Total Security expenses	808.07	882.05	956.60	1037.45	1125.15

277. Considering the fact that the additional capitalization towards the Construction of Boom Barrier has not been allowed in this order, the expenditure for AMC of the said asset is not allowed as part of the security expenses. Accordingly, the projected Security expenses allowed for the 2019-24 tariff period are as under.



(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Security expenses claimed as per Regulation 35(1)(6) of the 2019 Tariff Regulations	808.07	882.05	956.6	1037.45	1125.15
Less Security expenses not allowed (for boom barrier)	0.20	0.80	0.88	0.97	1.06
Security Expenses allowed	807.87	881.25	955.72	1036.48	1124.09

Capital spares

278. The last proviso to Regulation 35(6) of the 2019 Tariff Regulations provide as under:

“Provided also 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 as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

279. The Capital spares claimed by the Petitioner in terms of Regulation 35(6) of the 2019 Tariff Regulations are as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
170.00	55.00	850.00	0.00	0.00

280. The Petitioner has submitted that it requires several capital spares for critical equipment during the 2019-24 tariff period in order to ensure the reliability and availability of the main equipment. It has further submitted that these capital spares have not been included in the additional capitalization claims projected by the Petitioner above. Accordingly, the Petitioner has submitted that the Commission may approve the expenditure on capital spares as under:

(Rs. in lakh)

Item/Activity	2019-20	2020-21	2021-22	2022-23	2023-24
Coal Mill Gearbox	0.00	0.00	400.00	0.00	0.00
Crusher Rotor Assembly (Capital Spare -Imported)	0.00	0.00	150.00	0.00	0.00
Procurement of 400 kV Breaker	0.00	55.00	0.00	0.00	0.00
TDBFP Recirculation valve	170.00	0.00	0.00	0.00	0.00
TG Bearing Set	0.00	0.00	300.00	0.00	0.00
Total Capital Spares	170.00	55.00	850.00	0.00	0.00



281. It is evident from the last proviso to Regulation 35(6) of the 2019 Tariff Regulations that the Petitioner is required to furnish proper details and justification, the actually consumed capital spares, at the time of truing up of tariff. Therefore, the Petitioner is granted liberty to approach the Commission with details of capital spares consumed, at the time of truing-up of tariff in terms of the last proviso to the said regulation and the same will be considered in accordance with law.

Rental and Conveyance expenses in lieu of 2nd Township

282. In addition to the normative O&M expenses, the Petitioner has claimed Rental and Conveyance expenses in lieu of 2nd township, as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
75.65	79.43	83.40	87.57	91.95

283. The Petitioner has considered the incremental rate of 5% per annum on the average of the total expenditure incurred during the 2014-19 tariff period, to claim the projected Rental and Conveyance expenses in lieu of 2nd township, as under:

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Lease Rental (a)	86.15	90.45	94.98	99.73	04.71
Rent deduction from employees (b)	73.30	76.96	80.81	84..85	89.09
Transportation cost (c)	62.80	65.94	69.23	72.69	76.33
Total (a-b+c)	75.65	79.43	83.40	87.57	91.95

284. The reasons furnished by the Petitioner in support of the claim are the same as those furnished by the Petitioner for the 2014-19 tariff period as extracted in paragraph 145 and paragraph 146 of this order. The Commission, after considering the submissions of the Petitioner had rejected the claim of the Petitioner under this head in paragraph 149 of this order. In line with the said decision, the additional O&M expenses for Rental and Conveyance Expenses in lieu of 2nd township for the 2019-24 tariff period is for 2019-24 tariff period is not allowed.



O&M Expenses for RO Plant

285. The Petitioner has also claimed additional O&M Expenses towards Reverse Osmosis Plant for the 2019-24 tariff period as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
593.40	623.07	880.57	924.60	970.83

286. The Petitioner has submitted that in order to comply with the statutory directions, it has to run the Reverse Osmosis (RO) Plant. It has also submitted that with the commissioning of the RO Plant, the Petitioner is required to incur substantial expenditure towards O&M expenses of the RO Plant on a daily basis. While pointing out that O&M expenses mainly consist of cost towards consumables and service cost, the Petitioner has submitted that the consumable cost mainly consists of cost towards chemical consumption on daily basis, cost towards routine maintenance spares and replacement of cartridge, membrane, media etc. Accordingly, the Petitioner, as per preliminary estimates and considering the chemical cost, the rate of replacement of membranes and consumption of regular maintenance spares and an annual escalation of 5%, has projected the cost of consumables during the 2019-24 tariff period as below:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Chemical consumables	442.44	464.56	487.79	512.18	537.79
Replacement of Cartridge & Membrane	90.36	94.88	99.62	104.60	109.83
Resin and Media top up	9.6	10.08	10.58	11.11	11.67
Maintenance Spares	51.00	53.55	56.23	59.04	61.99
Total Consumables	593.40	623.07	654.22	686.93	721.28
O&M Services	0.00	0.00	226.34	237.66	249.54
Total O&M Expenses	593.40	623.07	880.57	924.60	970.83

287. The O&M expense norms for the thermal generating station covers the O&M of power plants in general, including equipment's such as ETP, STP etc., which also uses the consumables/chemicals and for other plants not having RO system, which



may be treating water with other alternative technologies. Regulation 35(6) of the 2019 Tariff Regulations provide for the grant of O&M expenses towards Water charges, Security Expenses and Capital spares, separately. As the provisions of 2019 Tariff Regulations do not provide for the grant of additional O&M expenses toward RO System of plant, the claim of the Petitioner is not permissible.

288. Based on the above discussion, the O&M expenses allowed for the 2019-24 tariff period is summarized as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses as per Regulation 35(1)(i) of the 2019 Tariff Regulations	23635.50	24465.00	25326.00	26218.50	27132.00
Water Charges as per Regulation 35(1)(6) of the 2019 Tariff Regulations	1930.35	2117.58	2329.34	2562.28	2826.22
Security expenses as per first proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations	807.87	881.25	955.72	1036.48	1124.09
Capital spares as per last proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses allowed	26373.72	27463.83	28611.06	29817.26	31082.31
Total O&M Expenses claimed	27212.99	28222.13	30425.91	30830.40	32146.15

Ash Disposal Expenses

289. The Commission in its order dated 25.4.2019 in Review Petition No 16/RP/2018 (in Petition No. 152/GT/2015) had allowed the projected 'Ash disposal' expenses for the 2014-19 tariff period based on the following observations:

"42. In the present case, the Petitioner is only claiming the cost incurred by it pertaining to the activity of ash disposal during the period 2014-18 periods on the same basis as was approved during 2011-14. The Additional O&M expenses for Ash Disposal claimed by the Petitioner in the impugned Order is basically due to limited ash pond capacity, which require mandatory disposal of ash from the pond, as per the statute prescribed by MoEF and not of the nature of expenses claimed by NTPC, in Petition No. 172/MP/2016. Hence, there is an error apparent on the face of the record and the expenditure of ₹260.90 lakh claimed by the Petitioner for Ash disposal during 2014-18 is allowed. However, the same will be trued up at the end of tariff period with prudence check and the Petitioner is directed to submit the relevant documents in support of the said expenditure."



290. Accordingly, we have, in paragraph 153 of this order, allowed the audited actual 'Ash disposal' expenses for the 2014-19 tariff period as under:

<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
6098.44	3791.36	3647.73	3320.87	3340.46	20198.86

291. The Petitioner has claimed Ash disposal expenses (on projection basis) for the 2019-24 tariff period as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
3425.52	3416.16	3416.16	3416.16	3425.52

292. The Petitioner has submitted that on account of dropping of Ash conveying pipeline, due to uncertainty in the allocation of the abandoned mines for ash disposal by ECL management, the ash disposal expenses may be allowed. It is observed that the coal received at Maithon site is of sub-optimal quality as compared to the design coal and ash content is to the tune of 43% to 46% (approx.). However, due to limited capacity of the Ash ponds, the Petitioner has considered the option of disposing unutilized ash through bulkers to sites for back filling of mines and to other approved locations for land filling, thereby incurring the cost towards excavation and transportation of pond ash. The projected ash disposal expenses claimed by the Petitioner are as follows.

Period	Consumption Plan (As Per 85% PLF) (MT)	Ash Generation (MT)	Fly Ash (gainful utilisation) (MT)	Fly Ash (stowing of mines) (MT)	Bottom Ash (MT)	Pond Ash (MT)	Ash Disposal cost (Rs. in lakh)
2019-20	4598744	1868010	373602	1338016	311335	159404	3425.6
2020-21	4586180	1862906	372581	1334361	310484	158968	3416.2
2021-22	4586180	1862906	372581	1334361	310484	158968	3416.2
2022-23	4586180	1862906	372581	1334361	310484	158968	3416.2
2023-24	4598744	1868010	373602	1338016	311335	159404	3425.6



293. The Respondent KSEBL has contended that claim for additional O&M expenses for Ash disposal expenses is not in line with the 2019 Tariff Regulations and, therefore, may be rejected.

294. The matter has been considered. We observe that the Ash disposal expenses claimed by the Petitioner and allowed to this generating station since COD, is in view of limited capacity of the Ash ponds and the mandatory ash disposal in terms of the notification of MOEF&CC mandating 100% ash utilization. Considering the limited capacity of ash ponds and the fact that the Petitioner is under an obligation of meeting 100% ash utilization as per MOEF & CC notification, we, in line with our dated 25.4.2019 in Review Petition No.16/RP/2018 (in Petition No.152/GT/2015) (as quoted in paragraph 289 above), allow the expenses claimed towards Ash disposal, on projection basis, for the 2019-24 tariff period as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
3425.52	3416.16	3416.16	3416.16	3425.52

295. This is however subject to prudence check at the time of truing-up of tariff of the generating station. The Petitioner is directed to award Ash disposal contracts based on the transparent bidding process and shall submit the details of bidding while claiming the actual ash disposal expenses during truing up of tariff for the 2019-24 tariff period. Considering the fact that the reimbursement of ash disposal expenses is allowed based on the special circumstances (limited ash pond storage) for this generating station, these expenses are not made part of the O&M expenses allowed and the consequent annual fixed charges determined in this order.

296. Accordingly, the total O&M expenses allowed to the generating station for the 2019-24 tariff period is summarised as under:



(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses as per Regulation 35(1)(i) of the 2019 Tariff Regulations	23635.50	24465.00	25326.00	26218.50	27132.00
Water Charges as per Regulation 35(1)(6) of the 2019 Tariff Regulations	1930.35	2117.58	2329.34	2562.28	2826.22
security expenses as per Regulation 35(1)(6) of the 2019 Tariff Regulations	807.87	881.25	955.72	1036.48	1124.09
Capital spares as per Regulation 35(1)(6) of the 2019 Tariff Regulations	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses allowed as per Regulations	26373.72	27463.83	28611.06	29817.26	31082.31
Total O&M Expenses claimed (excluding Ash expenses claimed)	27212.99	28222.13	30425.91	30830.4	32146.15

Operational Norms

297. The operational norms considered by the Petitioner in Form-3 of the petition, is as under:

Normative Annual Plant Availability Factor (%)	85
Station Heat Rate (kcal/kWh)	2388
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

Normative Annual Plant Availability Factor (NAPAF)

298. In terms of Regulation 49(A)(a) of the 2019 Tariff Regulations, the NAPAF of the thermal generating station is 85%. Hence, the NAPAF of 85% as considered by the Petitioner is in order and the same has been considered for the purpose of tariff.

Station Heat Rate

299. Regulation 49(C)(b)(i) of the 2019 Tariff Regulations provides for Station Heat Rate as under:

“(b) Gross Station Heat Rate

(b) Thermal Generating Station achieving COD on or after 1.4.2009.

*(i) Coal-based and lignite-fired Thermal Generating Stations
= 1.05 X Design Heat Rate (kCal/kWh)*



Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that the design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:

Pressure Rating (Kg/cm ²)	150	170	170
SHT/RHT (0C)	535/535	537/537	537/565
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1955	1950	1935
Min. Boiler Efficiency			
Sub-Bituminous Indian Coal	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89
Sub-Bituminous Indian Coal	2273	2267	2250
Bituminous Imported Coal	2197	2191	2174

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design unit heat rate of the nearest class shall be taken:

Provided also that where unit heat rate has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that where the boiler efficiency is below 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for computation of station heat rate:

Provided also that maximum turbine cycle heat rate shall be adjusted for type of dry cooling system:

Provided also that if one or more generating units were declared under commercial operation prior to 1.4.2019, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2019 shall be lowest of the heat rate norms considered by the Commission during tariff period 2014-19 or those arrived at by above methodology or the norms as per the sub-clause (C)(a)(i) of this Regulation:”

300. The Petitioner in Form-2 of the petition has furnished the Boiler Efficiency as 87.80% and the Turbine Heat Rate as 1945 kCal/kWh. Considering the operating margin of 5% as specified in Regulation 49(C)(b)(i), the Gross Station Heat Rate of the generating station works out as 2326.03 kCal/kWh (1945x1.05)/0.878). Against this, the Petitioner in Form-3 of the petition has considered the SHR of 2388 kCal/kWh for the 2019-24 tariff period, seeking relaxation in the Station Heat Rate on the following grounds:



- (a) The Commission in its order dated 26.12.2017 in Petition No.152/GT/2015, had approved the Station Heat Rate of 2375 kCal/kWh for the 2014-19 tariff period at level of Gross Station Heat Rate of the existing thermal generating station i.e. 2375 kCal/kWh in terms of the 2014 Tariff Regulations. The Gross Station Heat Rate of the Petitioner's station was 2377 kCal/kWh ($1.045 \times 1945 / 0.855$) considering the boiler efficiency of 85.5% and Turbine Heat Rate of 1945 kCal/kWh in terms of Regulation 36 (C) (c) of the 2014 Tariff Regulations. Considering the submissions of the Petitioner and noting the poor quality of coal received at the plant, the Commission had approved the boiler efficiency of 85.5% obtained during the PG test with actual coal compared to 87.80% as guaranteed by OEM (M/s BHEL) using design coal. The relevant para of the order dated 26.12.2017 is extracted below:

*"152. We have examined the matter. The issue of deviation in the design boiler efficiency and the actual boiler efficiency was raised by the Petitioner in Petition No. 274/2010 and the Commission after considering the submissions of Petitioner and the actual values of the PG test vide had relaxed the norms of the station heat rate vide order dated 19.11.2014.....
Xxxxx*

153. The Commission in 2009-14 tariff allowed the GSHR of 2425 kCal/kWh with a rider that up to 2360.47 kCal/kWh should be passed on to the beneficiaries in full and the benefit of heat rate achieved below 2360.47 kCal/ kWh, may be retained by the Petitioner. The Petitioner has submitted that Boiler Efficiency is 85.5% by using actual coal received by the Petitioner as the quality of coal received remains the same. By considering the boiler efficiency of 85.5% and Turbine cycle heat rate of 1945 Kcal/kWh, the Gross Station Heat Rate of the generating station works out as 2377 kCal/kWh ($1.045 \times 1945 / 0.855$) for the period 2014-19. However, the Petitioner has considered the Gross Station Heat Rate of 2375 kCal/kWh. The GSHR claimed by the Petitioner during 2014-19 is less than the GSHR allowed during 2009-14 period. In view of this, the Gross Station Heat Rate of 2375 Kcal/ kWh for the period 2014-19 has been allowed." (emphasis supplied)

301. The Petitioner has submitted that due to availability of sub-optimal quality of coal in the region, the quality of the actual coal received at the plant has not improved and, therefore, the condition remains the same till date. Accordingly, the Petitioner has prayed that the Commission may approve the boiler efficiency at 85.5% as obtained during the PG test with the actual coal for the 2019-24 tariff period, in exercise of the power vested under Regulation 3(25) read with Regulation 54 of the 2019 Tariff Regulations. According to the Petitioner, by considering the Boiler Efficiency of 85.5% as the quality of coal received remain suboptimal and with the Turbine Heat Rate of 1945 kCal/kWh, the Gross Station Heat Rate works out as 2388 kCal/kWh ($1.05 \times 1945 / 0.855$) for the 2019-24 Tariff Period.

302. The Commission vide ROP of the hearing dated 2.6.2020 had directed the Petitioner to furnish the actual coal quality (GCV, proximate and ultimate analysis)



received in generating station during the year 2019-20 and the coal quality of worst coal, design coal and best coal envisaged by the OEM for guaranteed parameter of boiler efficiency. In response, the Petitioner vide affidavit dated 20.6.2020 has furnished the details and submitted as under:

- a) Since the current coal quality has not improved vis-à-vis the coal quality that was there at the time of PG test, the Petitioner has proposed to consider the Boiler efficiency as 85.5% in the 2019-24 tariff period as well.
- b) The proximate and ultimate analysis data submitted by the Petitioner for the entire period of 2019-20 is not a correct representative of the coal that will be fired in the balance period of the control period. The same is on account of the fact that imported coal of high quality (which was initiated during H2 of 2018-19 due to coal scarcity at that time) was used along with domestic coal for first 5 months. Approximately 1.98 lakh MT of Imported coal was received in H2 of 2018-19 with opening stock of ~32000 MT in April 2020 and ~28000 MT received in Q1 of 2019-20.
- c) Since coal supplies from domestic sources have improved after the said period, albeit the quality has not improved. It is most likely that only domestic coal shall be fired in the balance control period as well. Further, the coal quality is likely to be the same as in the latest 9 months when only domestic coal was fired. Accordingly, for the purposes of comparing the coal quality during PG test and the present/future coal quality of domestic coal, the Petitioner proposes to discard the data for first two months of 2019-20 and consider the coal characteristics for the last 9 months i.e. September 2019 to May 2020.
- d) With respect to coal quality during the PG test, the ash content has reduced slightly by 2.11% from 42.98% to 40.87% (against design of 36.19%), which has resulted in small increase in GCV by 109 kCal/kg, which should theoretically improve the boiler efficiency. Simultaneously, the moisture content in the coal has also increased by 0.59%, which causes some more heat loss due to evaporation and hence causes decrease in efficiency. The correction to be applied for variation in GCV and moisture may be done by linear approximation of the correction curves for GCV and moisture variation supplied by the OEM. A copy of the correction curves for GCV and Moisture is annexed herewith.
- e) The GCV correction curve shows that for an improvement of GCV of 240 kCal/kg (from 4431 to 4671), the efficiency improves by 0.28%. Similarly, for an increase in moisture by 0.4% (from 7.11 to 7.61), the efficiency drops by 0.05%. Applying these corrections to the PG test result of 85.5%, the theoretical net improvement in efficiency comes to only 0.049% ($109 \times 0.28 / 240 - 0.59 \times 0.05 / 0.5$) i.e. 85.5% improves to 85.55% only. Thus, the current coal quality should theoretically yield approximately the same efficiency as was measured during PG test i.e. 85.5%.



303. The Respondent KSEBL has objected to the prayer of the Petitioner and has submitted that the claim of the Petitioner may not be allowed.

304. The matter has been considered. The Commission in its orders relating to the 2009-14 and 2014-19 tariff periods had considered the Boiler Efficiency as 85.5% against the Design Efficiency of 87.8% for the generating station, in relaxation of the Tariff Regulations, based on the lower boiler efficiency achieved during PG test due to poor quality of coal having more ash content and more moisture. The details of the coal quality (domestic coal) furnished by the Petitioner, in response to the ROP dated 2.6.2020, indicate that there is slight improvement in the GCV of coal and also some increase in moisture is observed, as compared to the coal burnt at the time of PG test. It is also observed that the variation in quality of coal from PG test quality to the quality of coal received during the year 2019-20 has improved the efficiency by 0.05% only. The COD of the generating station is 24.7.2012. The Petitioner was granted relaxation in Boiler Efficiency due to poor quality of coal received during the previous tariff periods, as stated above. The question for consideration is 'whether the relaxation granted to the Petitioner during the previous tariff periods is required to be continued on a perpetual basis, during the entire contract period.

305. The Petitioner has considered PG Test performance based on the quality of coal permissible to the Boiler and Plant characteristics. Also, the PPA was executed by the Petitioner based on demonstrable plant characteristics. The Boiler efficiency had undergone changes due to receipt of poor quality of coal in comparison to the quality envisaged at the time of PG test. The deterioration of coal quality is temporary and cannot alter the plant characteristics on a perpetual basis. Coal is being procured by the Petitioner after execution of the Fuel Supply Agreement with the coal supplier. It was the obligation of the Petitioner, while entering into FSA, to



ensure the desired quality of coal, by enforcing the provisions of FSA or by exploring any other alternate sources of coal. The Petitioner, having not been prevented from exploring alternate source of coal, cannot, on a perpetual basis, be permitted to pass on the burden on the beneficiaries on this count, more so when the Petitioner has not fulfilled the said obligations. It is further noticed that the Petitioner has not furnished any documentary evidence substantiating the efforts taken by it to ensure the good quality of coal. In our view, the relaxation of SHR of the generating station, in perpetuity, based on coal quality, will render the operational parameters specified under the 2019-24 Tariff Regulations for all generators redundant, as more often than not, the coal quality may no match with design coal. In view of this, there is no merit in the prayer of the Petitioner for relaxation of SHR on grounds of deterioration in quality of coal. The Petitioner is directed to ensure the required quality of coal as envisaged during the PG test. Accordingly, considering the operating margin of 5% as specified in Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, the GSHR of the generating station works out as $2326.03 \text{ kcal/kWh} [1945 \times 1.05] / 0.878$ and the same is considered and allowed.

306. Regulation 49(E)(a)(ii) of the 2019 Tariff Regulations provides for Auxiliary power Consumption (APC) as under:

“(E) Auxiliary Energy Consumption

(a) Coal-based generating stations except at (b) below:

	<i>With Natural Draft cooling tower or without cooling tower</i>
<i>(i) 200 MW series</i>	<i>8.5%</i>
<i>(ii) 300 MW and above</i>	
<i>Steam driven boiler feed pumps</i>	<i>5.75%</i>
<i>Electrically driven boiler feed pumps</i>	<i>8.0%</i>

Provided that for thermal generating stations with induced draft cooling towers and where tube type coal mill is used, the norms shall be further increased by 0.5% and 0.8% respectively:...”



307. Both the units of the generating station of the Petitioner, with capacity of 300 MW and above have Steam-driven Boiler Feed Pumps & Induced Draft Cooling Tower. Therefore, both the units qualify for a normative APC of 6.25% (5.75% for Units having Steam-driven BFP and additional 0.50% for having Induced Draft Cooling Tower). In view of the above, the normative APC of 6.25% as considered by the Petitioner is in order and therefore allowed.

Specific Oil Consumption

308. Regulation 49(D)(a) of the 2019 Tariff Regulations provides for the Secondary fuel oil consumption of 0.50 ml/kWh for Coal based generating stations. Hence, the Secondary fuel oil consumption considered by the Petitioner in terms of the said regulation is allowed.

Interest on Working Capital

309. Sub-section (a) of clause (1) of Regulation 34 of the 2019 Tariff Regulations provides as under:

“34 (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 10 days for pit-head generating stations and 20 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 including water charges and security expenses;

(v) Receivables equivalent to 45 days of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and

(v) Operation and maintenance expenses, including water charges and security expenses for one month.”



Fuel Cost and Energy Charges in Working Capital

310. The Petitioner has claimed the cost for fuel component in working capital based on price and on 'as received' GCV of coal procured and burnt for the months of October 2018, November 2018, and December 2018 and Secondary fuel oil for months of October 2018, November 2018, and December 2018 as under:

<i>(Rs. in lakh)</i>					
Year	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal for 50 days	28573.30	28573.30	28573.30	28573.30	28573.30
Cost of Secondary fuel oil 2 months	279.86	279.09	279.09	279.09	279.86

311. The computation of Energy Charges and Fuel component (coal cost) in working capital during the 2019-24 tariff period is based on "as received GCV" of coal. The Petitioner has claimed Energy Charge Rate (ECR) of 281.01 paise/kWh, based on the Weighted Average Price, GCV of coal (on 'as received' basis) and Oil procured and burnt for the three months (October, 2018 to December, 2018). The cost for fuel components in working capital has been computed deducting the 85 kCal per Kg from the Weighted Average Gross Calorific Value of coal 'as received' on account of the variation during storage, as specified under Regulation 43(2) (b) of the 2019 Tariff Regulations and considering the GCV and cost of coal procured and GCV and cost of Secondary fuel oil procured for the three months (October, 2018 to December, 2018) as given below:

<i>(Rs. in lakh)</i>		
Year	2019-20 & 2023-24	2020-21 to 2022-23
Working Capital towards Cost of Coal for stock (20 days of generation at NAPAF)	11266.15	11266.15
Working Capital towards Cost of Coal for Generation (30 days of generation at NAPAF)	16899.22	16899.22
Coal cost for 50 days of generation at NAPAF	28165.37	28165.37
Cost of Secondary fuel oil (2 months of generation at NAPAF)	315.50	314.64

Maintenance Spares

312. The Petitioner has claimed maintenance spares in working capital as under:



(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
5443.00	5644.00	6085.00	6166.00	6429.00

313. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses, including water charges and security expenses. Accordingly, maintenance spares towards Working Capital are allowed as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
5274.74	5492.77	5722.21	5963.45	6216.46

Receivables

314. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for Working Capital towards Receivables equivalent to 45 days of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor. Accordingly, Receivables equivalent to 45 days of capacity charges and energy charges is worked out as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Receivables equivalent to 45 days of capacity charges	12427.67	13037.68	13544.78	13387.75	13244.30
Receivables equivalent to 45 days of energy charge	25582.51	25582.51	25582.51	25582.51	25582.51

O & M Expenses (1 month)

315. O&M expenses for 1 month as claimed by the Petitioner for the purpose of working capital is as under:

(Rs. in lakh)

2019-20	2020-2021	2021-22	2022-23	2023-24
2267.70	2351.80	2535.50	2569.20	2678.80

316. Regulation 34(a)(vi) of the 2019 Tariff Regulations provides for Working Capital towards O&M expenses including water charges and security expenses for



one month of O&M expenses for coal-based generating station. Accordingly, O&M expenses (1 month) is allowed as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
2197.81	2288.65	2384.26	2484.77	2590.19

Rate of Interest on Working Capital

317. Regulation 34(3) of 2019 Tariff Regulations provides as below:

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.”

318. In line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital for 2019-20 is 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) and for 2020-21 is 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps). However, since tariff of the generating station is being determined by this order during the year 2021-22, the SBI MCLR as on 1.4.2021 (7.00%) is also available, which is lower in comparison to the same as on 1.4.2020 (7.75%). Since, the rate of interest on working capital is subject to truing-up, based on the bank rate as on 1st April of each financial year, we consider it prudent to allow the rate of interest as on 1.4.2021 for the subsequent financial years. Accordingly, the rate of interest considered is 12.05% for 2019-20, 11.25% for 2020-21 and for the subsequent years of the tariff period, the rate of interest of 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 1.4.2021 + 350 bps) has been considered. Necessary computations in support of interest on working capital are as below:

<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Cost of coal towards stock (20 days of generation at NAPAF)	11266.15	11266.15	11266.15	11266.15	11266.15



Working Capital for cost of coal towards generation (30 days of generation at NAPAF)	16899.22	16899.22	16899.22	16899.22	16899.22
Working Capital for Cost of secondary fuel oil for two months	315.50	314.64	314.64	314.64	315.50
Working Capital for Maintenance spares @ 20% of O&M expenses	5274.74	5492.77	5722.21	5963.45	6216.46
Working Capital for Receivables equivalent to 45 days of capacity charges on the NAPAF	12427.67	13037.68	13544.78	13387.75	13244.30
Working Capital for Receivables equivalent to 45 days of energy charges on the NAPAF	25582.51	25582.51	25582.51	25582.51	25582.51
Working Capital for O&M expenses (one month of O&M expenses)	2197.81	2288.65	2384.26	2484.77	2590.19
Total Working Capital	73963.61	74881.62	75713.77	75898.49	76114.33
Rate of Interest on Working Capital	12.05%	11.25%	10.50%	10.50%	10.50%
Interest on Working Capital	8912.61	8424.18	7949.95	7969.34	7992.01

Additional Tax on Income due to adoption of Indian Accounting Standards ('Ind AS')

319. In addition to the components of the annual fixed charges allowed under the regulations, viz; Return on equity, Interest on normative loan, Depreciation, interest on working capital and O&M expenses, the petitioner has also claimed additional tax arisen on account of amendments in the Finance Act, 2017 to be recovered separately over and above the annual fixed charges as per the change in law provisions. The additional tax amount claimed by the Petitioner is Rs.38.28 lakh each for the years 2019-20 and 2020-21 respectively.

320. The matter has been examined. As regards the recovery of additional tax liability due to implementation of Ind AS, it is observed that the 2019 Tariff Regulations provide for tax recovery by way of grossing up of Return on Equity (ROE) with effective tax rate; or the Minimum Alternate Tax (MAT) in case of a generating company or transmission licensee, as the case may be, paying MAT, of



the respective financial year. Further, no income, other than generation/ transmission activities, is considered for the purpose of tax recovery. In the present case, ROE is allowed for grossing up with MAT rate, as envisaged under the 2019 Tariff Regulations. It is further observed that the implementation of Ind AS has an accounting treatment implication and does not result in income from generation business activity. Similar claim of the Petitioner for the 2014-19 tariff period has been disallowed in this order. Accordingly, the prayer of the Petitioner for the 2019-24 tariff period, to allow the recovery of additional tax liability on increased income due to implementation of Ind AS is not allowed.

Annual Fixed Charges

321. Accordingly, the annual fixed charges approved for the generating station for the 2019-24 tariff period are summarized as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	27109.00	29153.01	31044.64	31005.56	30994.24
Interest on Loan	14094.35	14216.55	14014.45	11573.71	9133.87
Depreciation	24588.73	26492.50	28243.13	28223.66	28223.56
O & M Expenses	26373.72	27463.83	28611.06	29817.26	31082.31
Interest on Working Capital	8912.61	8424.18	7949.95	7969.34	7992.01
Annual Fixed Charges	101078.41	105750.08	109863.23	108589.54	107425.98

Note: (1) All figures are on annualised 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.

322. As stated in paragraph 294 above, the Ash disposal expenses allowed are as below:

	<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24	Total
	3425.52	3416.16	3416.16	3416.16	3425.52	17099.52

323. The annual fixed charges determined as above are subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

Energy Charge Rate (ECR)



324. As stated above, the Petitioner has claimed Energy Charge Rate (ECR) of 281.01 paise/kWh based on the weighted average price, GCV of coal & Oil procured and burnt for the preceding three months i.e. October 2018 to December 2018. The Petitioner did not subtract 85 kCal/kg from Weighted Average Gross calorific value of coal as received, on account of variation during storage at generating station, provided in Regulation 43(2)(b) of the 2019 Tariff Regulations, while computing the IWC and the energy charge rate. The Commission has adjusted the same in accordance with the Regulation 43(2)(b) of 2019 tariff regulations. ECR worked out, based on the operational norms specified under the 2019 Tariff Regulations and on 'as received' GCV of coal for the preceding 3 months i.e. October 2018 to December 2018, is given below:

Description	Unit	2019-24
Capacity	MW	1050
Gross Station Heat Rate	Kcal/kWh	2326.03
Aux. Energy Consumption	%	6.25
Weighted average GCV of oil	Kcal/lit	9100
Weighted average GCV of Coal *	Kcal/kg	3999.16 (4084.16 - 85)
Weighted average price of oil	Rs/KL	48292.22
Weighted average price of Coal	Rs/MT	4530.33
Rate of energy charge ex-bus	Rs/kWh	2.831

325. The Fuel component and Energy charges allowed in working capital are as under:

Year	<i>(Rs. in lakh)</i>	
	2019-20 and 2023-24	2020-21 to 2022-23
Cost of Coal for stock (20 days)	11266.15	11266.15
Cost of Coal for Generation (30 days)	16899.22	16899.22
Cost of Secondary fuel oil 2 months	315.50	314.64
Energy charges for 45 days	25582.51	25582.51

326. There is variation between the Coal cost, Secondary fuel oil cost and Energy charges considered and allowed as above towards Interest on Working Capital as against those claimed by the Petitioner. This is attributable to the variation between the values of SHR, GCV and the Cost of coal and Secondary fuel claimed by the



Petitioner and considered and allowed by the Commission. As regards the variation in the Secondary fuel oil, the price and GCV of HFO only (as per consistent methodology adopted) has been considered after excluding the quantity in stock, while the Petitioner had considered the combined cost and GCV of LDO and HFO, including the stock. Similarly, the GCV and landed price of coal, has been arrived at after excluding the stock of coal, whereas, the Petitioner had included the stock of coal. The fuel quantity in stock has been excluded to arrive at the exact value of landed price and GCV of fuel procured during the three months from October 2018 to December 2018, as stipulated under the 2019 Tariff Regulations.

327. The Petitioner, on a month to month basis, shall compute and claim Energy Charges from the beneficiaries based on the formulae given under Regulation 43 of the 2019 Tariff Regulations.

Application Filing Fees and Publication Expenses

328. The Petitioner has also sought reimbursement of fees paid by it for the 2019-24 tariff period for filing the tariff petition and the publication expenses incurred for the same. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Summary

329. The annual fixed charges allowed for the 2014-19 tariff period (after truing-up) is as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
103521.74	104906.37	103399.96	100487.66	99726.57

330. The annual fixed charges approved for the 2019-24 tariff period is as under:



(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
101078.41	105750.08	109863.23	108589.54	107425.98

331. Petition No. 408/GT/2020 is disposed of in terms of the above.

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member

Sd/-
(P.K. Pujari)
Chairperson



Annexure – I

Weighted average rate of depreciation for the 2014-19 tariff period

Sr. No.	Name of the Assets	Depreciation rates as per Regulations	Gross Block 2014-15	Depreciation amount for 2014-15	Gross Block 2015-16	Depreciation amount for 2015-16	Gross Block 2016-17	Depreciation amount for 2016-17	Gross Block 2017-18	Depreciation amount for 2017-18	Gross Block 2018-19	Dep. Amount for 2018-19
A	Land under full ownership	0.00%	8635.47	0	17305.94	0	17340.93	0	17341.33	0	17427.03	0
B	Land under lease											
(a)	for investment in the land	3.34%	6068.48	202.69	8004.12	267.34	7936.78	265.09	7936.78	265.09	8907.31	297.5
C	Assets purchased new											
a.	PI & Machinery in generating stations											
(i)	Steam electric NHRB & waste heat recovery boilers	5.28%	372736.3	19680.48	376462.2	19877.21	380837	20108.19	382079.1	20173.77	389131.9	20546.17



b.	Cooling towers & circulating water systems	5.28%	10070.52	531.72	10070.52	531.72	10070.52	531.72	10070.52	531.72	10070.52	531.72
d.	Building & Civil Engineering works											
(i)	Offices and showrooms	3.34%	2711.34	90.56	2811.1	93.89	2812.63	93.94	2909.02	97.16	10399.72	347.35
(ii)	Containing thermo-electric generating plant	3.34%	20269.2	676.99	23623.96	789.04	24300.49	811.64	24311.59	812.01	24333.73	812.75
(iii)	Containing hydro-electric generating plant	3.34%	0.00	0	263.44	8.8	526.88	17.6	526.88	17.6	263.44	8.8
(v)	Roads other than Kutcha roads	3.34%	2920.61	97.55	5064.62	169.16	5366.43	179.24	5436.96	181.59	2738	91.45
(vi)	Others	3.34%	15021.06	501.7	17794.86	594.35	20042.28	669.41	20230.55	675.7	10558.2	352.64
e.	Transformers, Kiosk, sub-station equipment & other fixed											
	apparatus (including plant)											



(i)	Transformers including foundations having rating of 100	5.28%	5485.01	289.61	5499.34	290.37	5513.68	291.12	5513.68	291.12	5611.47	296.29
	KVA and over											
f.	Switchgear including cable connections	5.28%	13204.1	697.18	13220.88	698.06	13270.68	700.69	13270.68	700.69	13407.67	707.93
(iii)	Lines on steel on reinforced concrete support	5.28%	0.00	0	1.73	0.09	3.47	0.18	1.73	0.09	0	0
k.	Self-propelled vehicles	9.50%	287.41	27.3	274.95	26.12	268.7	25.53	298.91	28.4	304.54	28.93
(ii)	Portable	9.50%	10.18	0.97	10.18	0.97	10.18	0.97	10.18	0.97	8.01	0.76
m.	Office furniture and furnishing	6.33%	679.29	43	770.74	48.79	793.91	50.25	770.89	48.8	764.54	48.4
(i)												
(ii)	Office equipment	6.33%	584.44	37	652.13	41.28	685.24	43.38	684.06	43.3	683.58	43.27
(iii)	Internal wiring including fittings and apparatus	6.33%	588.41	37.25	578.59	36.62	579.64	36.69	579.64	36.69	579.64	36.69



(iv)	Strret Light fittings	5.28%	64.03	3.38	64.03	3.38	64.03	3.38	32.02	1.69	0.00	0
(ii)	Telephone lines and telephones	6.33%	8.03	0.51	13.51	0.86	15.93	1.01	16.2	1.03	13.19	0.84
p.	I. T Equipment including software	15.00%	246.44	36.97	265.7	39.86	252.74	37.91	255.11	38.27	291.12	43.67
q.	Any other assets not covered above	5.28%	387.17	20.44	388.38	20.51	388.59	20.52	382	20.17	386.19	20.39
	TOTAL		451342	22975.28	465835	23538.4	473739.8	23888.46	475316.5	23965.86	478452.8	24215.54
	Weighted Average rate of depreciation		5.09%		5.05%		5.04%		5.04%		5.06%	

