

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 387/GT/2020**

**Coram:**

**Shri Jishnu Barua, Chairperson**

**Shri Arun Goyal, Member**

**Shri Pravas Kumar Singh, Member**

**Date of Order: 19<sup>th</sup> May, 2024**

**IN THE MATTER OF**

Petition for truing-up of tariff of Talcher Super Thermal Power Station Stage-I (1000 MW) for the period 2014-19.

**AND**

**IN THE MATTER OF**

NTPC Limited,  
NTPC Bhawan, Core-7, Scope Complex,  
7, Institutional Area, Lodhi Road,  
New Delhi – 110 003

**.... Petitioner**

**Vs**

1. West Bengal State Electricity Distribution Company Limited,  
Vidyut Bhawan, Block-DJ,  
Sector-II, Salt Lake City,  
Kolkata – 700 091.
2. Bihar State Power Holding Company Limited,  
Vidyut Bhawan, Bailey Road,  
Patna – 800 001.
3. Jharkhand Urja Vikas Nigam Limited,  
Engineering Bhawan, Heavy Engineering Corporation,  
Dhurwa, Ranchi-834 004.
4. Grid Corporation of Orissa Limited,  
Vidyut Bhawan, Janpath,  
Bhubaneshwar – 751 007.
5. Damodar Valley Corporation,  
DVC Towers, VIP Road, Kolkata – 700 054.



6. Energy & Power Department,  
Govt. of Sikkim, Kazi Road, Gangtok,  
Sikkim – 737 101.
7. Assam Power Distribution Company Limited,  
Bijulee Bhawan, Paltan Bazar,  
Guwahati – 781001.
8. Tamil Nadu Generation and Distribution Company Ltd.,  
NPKRP Maaligail, 800, Anna Salai,  
Chennai – 600 002.

...Respondents

**Parties Present:**

Ms. Swapna Seshadri, Advocate, NTPC  
 Ms. Ritu Apurva, Advocate, NTPC  
 Ms. Neelam Singh, Advocate, NTPC  
 Shri M. Karthikeyan, Advocate, NTPC  
 Shri Rudraksh Bhushan, NTPC  
 Shri U.S. Mohanty, NTPC  
 Shri S. Vallinayagam, Advocate, TANGEDCO  
 Shri R.K. Mehta, Advocate, GRIDCO  
 Ms. Himanshi Andley, Advocate, GRIDCO

**ORDER**

This Petition has been filed by the Petitioner, NTPC Limited, for the truing-up of the tariff of Talcher Super Thermal Power Station Stage-I (1000 MW) (in short 'the generating station') for the period 2014-19, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations'). The generating station with a capacity of 1000 MW comprises two units of 500 MW each, and the dates of commercial operation of the units of the generating station are as under:

	Capacity (MW)	COD
Unit-I	500	1.1.1997
Unit-II	500	1.7.1997

2. The Commission, vide its order dated 20.7.2016 in Petition No. 207/GT/2014, had trued-up the tariff of the generating station for the period 2009-14, based on the closing capital cost as on 31.3.2014 for Rs.257916.15 lakh. Subsequently, vide order



29.7.2016 in Petition 281/GT/2014, the capital cost and the annual fixed charges of the generating station for the period 2014-19 were approved as under:

**Capital Cost allowed**

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	257916.15	260577.15	272337.15	281861.15	286719.15
Add: Addition during the year	2661.00	11760.00	9524.00	4858.00	0.00
<b>Closing capital cost</b>	<b>260577.15</b>	<b>272337.15</b>	<b>281861.15</b>	<b>286719.15</b>	<b>286719.15</b>
Average capital cost	259246.65	266457.15	277099.15	284290.15	286719.15

**Annual Fixed Charges allowed**

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	7029.23	7957.62	9556.59	10631.90	10902.58
Interest on Loan	0.00	12.08	11.60	0.00	0.00
Return on Equity	25091.10	25638.91	26268.03	26693.14	26836.73
Interest on Working Capital	5311.99	5418.48	5534.68	5731.42	5825.09
O&M Expenses	18000.34	19010.34	20207.36	21482.45	22836.11
Compensation Allowance	500.00	500.00	500.00	750.00	1000.00
<b>Total</b>	<b>55932.66</b>	<b>58537.43</b>	<b>62078.26</b>	<b>65288.91</b>	<b>67400.51</b>

3. It is observed that the Petitioner filed Petition No. 41/RP/2016 seeking a review of the order dated 20.7.2016 in Petition No. 207/GT/2014, and the Commission vide its order dated 27.10.2016, revised the closing capital cost of the generating station, as on 31.3.2014, to Rs. 258028.71 lakh. Accordingly, the capital cost of Rs. 258028.71 lakh has been considered as the opening capital cost as on 1.4.2014.

**Present Petition**

4. Regulation 8 (1) of the 2014 Tariff Regulations provides as under:

*“8. Truing up*

*(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:*

*Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”*

5. Accordingly, in terms of the above regulation, the Petitioner, vide its affidavit dated 13.1.2020, sought the truing-up of the tariff of the generating station for the period 2014-19 and has claimed the capital cost and annual fixed charges, as under:



**Capital cost claimed***(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	258028.71	259277.96	261195.22	263781.54	265270.60
Add: Addition during the year	1136.53	1676.46	2451.40	2960.00	11192.73
Less: De-capitalisation during the year	47.49	28.20	109.57	1635.39	475.90
Add: Discharges during the year	160.20	269.00	244.49	164.45	256.75
Closing capital cost	<b>259277.96</b>	<b>261195.22</b>	<b>263781.54</b>	<b>265270.60</b>	<b>276244.18</b>
Average Capital cost	<b>258653.33</b>	<b>260236.59</b>	<b>262488.38</b>	<b>264526.07</b>	<b>270757.39</b>

**Annual fixed charges claimed***(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6966.53	7173.28	7526.62	8189.97	9702.88
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	25056.70	25271.68	25404.80	25525.27	25961.98
Interest on Working Capital	7371.15	7437.79	7574.52	7951.41	8058.87
O&M expenses	18602.33	19358.61	20108.57	23107.18	23148.89
Compensation Allowance	500.00	500.00	500.00	750.00	1000.00
5 km scheme (claimed as reimbursement)	0.65	1.53	-	-	-
<b>Total (A)</b>	<b>58497.36</b>	<b>59742.89</b>	<b>61114.52</b>	<b>65523.83</b>	<b>67872.62</b>
<b>Additional O&amp;M Expenses</b>					
Impact of pay revision	0.00	19.15	1429.98	1885.96	2440.17
Impact of GST	0.00	0.00	0.00	195.58	249.62
Fly Ash Transportation expenses	0.00	0.00	0.00	0.00	356.94
<b>Total (Additional O&amp;M expenses) (B)</b>	0.00	19.15	1429.98	2081.54	3046.73
<b>Total (A+B)</b>	<b>58497.36</b>	<b>59762.04</b>	<b>62544.50</b>	<b>67605.37</b>	<b>70919.35</b>

6. The Petitioner, vide an additional affidavit dated 30.6.2021 has submitted the break-up of the actual O&M expenses and the GCV of the coal received. It has also, vide affidavit dated 13.7.2021, furnished the auditor-certified tariff filing forms. The Respondents GRIDCO, BSPHCL and TANGEDCO have filed their replies vide affidavits dated 28.07.2021, 20.10.2021 and 26.8.2021, respectively. The Respondent, GRIDCO, vide its affidavit dated 8.9.2021, has filed additional submissions in the matter. In response, the Petitioner vide affidavits dated 23.12.2021 and 6.1.2022 has filed its rejoinders to the replies of Respondents GRIDCO, TANGEDCO, and BSPHCL, respectively. The Petitioner, vide its affidavit dated 6.4.2022 and 13.7.2022, has also filed certain additional information with regard to a few additional capital expenditures and ash transportation, respectively. The Petition



was heard on 6.1.2023 along with Petition No. 436/GT/2020 (tariff of the generating station for the period 2019-24), and the Petitioner and the Respondent, GRIDCO vide, have filed their respective note of arguments. The Commission, after hearing the parties on 6.1.2023, directed the Petitioner to submit certain additional information and reserved its order in the matter. In response, the Petitioner, vide its affidavit dated 13.2.2023, has filed certain additional information, and the Respondent, GRIDCO, vide affidavit dated 4.3.2023, has filed its reply, and the Petitioner has filed its rejoinder to the same. However, since the order in the Petition could not be issued prior to one Member of the Commission, who formed part of the Coram demitting office, the Petition was re-listed and heard on 6.2.2024 along with Petition No.436/GT/2020, and the Commission, after directing the Petitioner to file certain additional information, reserved its order in these Petitions. In response, the Petitioner vide affidavit dated 21.3.2024 has submitted the additional information after serving a copy on the Respondents. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to truing up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

### **Capital Cost**

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

*“9. Capital Cost:*

*(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 capitalisation and de-capitalisation for the respective year of tariff as determined in accordance with Regulations 14.*
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15;”*

8. As stated, the Petitioner has claimed the opening capital cost as on 1.4.2014 as Rs. 258028.71 lakh. However, the Respondents TANGEDCO and BSPHCL have submitted that in terms of the order dated 29.7.2016 in Petition No. 281/GT/2014, the



opening capital cost as on 1.4.2014, shall be Rs. 257916.15 lakh. It is noticed that the Commission vide its order dated 29.7.2016 in Petition No. 281/GT/2014 had determined of tariff of the generating station for the period 2014-19, considering the opening capital cost as Rs. 257916.15 lakh. However, vide order dated 27.10.2016 in Petition No. 41/RP/2016 (in Petition No. 207/GT/2014), the closing capital cost of Rs. 258028.71 lakh, as on 31.3.2014, on a cash basis was approved. Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs. 258028.71 lakh, as on 31.3.2014, has been considered as the opening capital cost as on 1.4.2014.

### **Additional Capital Expenditure**

9. Regulation 14 of the 2014 Tariff Regulations, provides as under:

*“14. (3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*

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

*(ii) Change in law or compliance of any existing law;*

*(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;*

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

*(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;*

*(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*

*(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal /lignite-based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*

*(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and*



expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to 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-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

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

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

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

10. Regulation 17 of 2014 Tariff Regulations provides as under:

"17. Compensation Allowance:

(1) In case of coal-based or lignite-fired thermal generating station or a unit thereof, a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations, and in such an event, revision of the capital cost shall not be allowed on account of compensation allowance but the compensation allowance shall be allowed to be recovered separately.

(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:

<b>Years of Operation</b>	<b>Compensation Allowance (Rs lakh/MW/year)</b>
0-10	Nil
11-15	0.20
16-20	0.50
21-25	1.00

11. The Petitioner, in Form-9A of the petition, has claimed the total additional capital expenditure of Rs. 18107.96 lakh, on a cash basis, for the period 2014-19 and has also submitted an auditor certificate vide affidavit dated 13.7.2021. However, on





preliminary scrutiny of the above claims, it is observed that the additional capital expenditure mentioned in the summary sheet in Form 9A is at variance with the year-wise claims made. Hence, the Commission, vide ROP of the hearing dated 6.2.2024, had directed the Petitioner to reconcile the same. In response, the Petitioner, vide its affidavit dated 21.3.2024, has submitted the auditor-certified revision of the additional capital expenditure, wherein certain heads and amounts were modified, and the total additional capital expenditure claimed is Rs. 18215.47 lakh, as detailed below:

**(Rs. in lakh)**

		<b>Regulation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
	<b>Allowed Works</b>						
1	Ash dyke works of Lagoon 1 (Including Raising & strengthening)	14(3)(iv)	181.69	1192.63	1626.14	1576.23	1902.22
2	Ash dyke works of Lagoon 2 (Including Raising & strengthening)	14(3)(iv)	494.02	296.64	329.72	805.51	233.64
3	Ash handling plant (AHP) for Unit -1	14(3)(iv)	0.00	0	0.00	389.38	0.00
4	Strengthening of approach road to Stage-I ash dyke (NH-53 junction to Madua Chowk via Y-point of Stage-I)	14(3)(iv)	52.09	16.76	0	0	0
5	Separate Ash evacuation system of stage-I boiler and economizer Hoppers	14(3)(ii)	124.65	0	0	0	0
6	Adjustment amount towards Wet Ash Disposal System for boiler hoppers-ST-I	14(3)(ii)	0	0	0	-0.74	-0.42
7	Replacement of Halon based firefighting system with Inert gas firefighting system and augmentation of fire detection and fighting system	14(3)(ii)	230.55	9.52	0	0	0
8	Upgradation of ESP of Stage-I	14(3)(ii)	0	14.24	0	0	8613.29
9	Installation of Seepage water Recirculation system (SWRS)	14(3)(ii)	0	0	494.88	73.71	7.10
	<b>Sub Total</b>		<b>1082.99</b>	<b>1529.79</b>	<b>2450.75</b>	<b>2844.09</b>	<b>10755.83</b>
	<b>New claims</b>						
1	Installation of Continuous emission monitoring system package (CEMS)	14(3)(ii)		109.14	0.20		
2	Payment of additional compensation and Balance interest on enhanced compensation for land as per court orders	14(3)(i)	5.89	1.73	0.44		225.00
3	Arbitration award to Raghul Construction against construction of project enabling works	14(3)(i)		35.80			
4	Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke	14(3)(iv) & (ii)	44.79				
5	Extension of boundary wall from MGR to Ambapal level crossing	14(3)(iii)	2.86				
6	Replacement of CFL/HPSV with energy efficient LED lighting	14(3)(ii)				115.91	211.89
	<b>Sub Total</b>		<b>53.55</b>	<b>146.68</b>	<b>0.64</b>	<b>115.91</b>	<b>436.89</b>





1	Cost adjustment against allowed work of Phase-II works for strengthening of Raising-I for further 5th raising of Lagoon-I of Stage-I.	14(4)		-1.67			
2	Cost adjustment against allowed work of Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke.	14(4)		-0.17			
3	Decapitalization against ESP R&M	14(4)		-5.82			
4	Decapitalization of Spares: Part of Capital Cost	14(4)	-47.49	-20.54	-109.57	-1635.39	-475.90
	<b>Sub Total</b>		<b>-47.49</b>	<b>-28.20</b>	<b>-109.57</b>	<b>-1635.39</b>	<b>-475.90</b>
	<b>Total Additional capitalization</b>		<b>1089.05</b>	<b>1648.27</b>	<b>2341.82</b>	<b>1324.61</b>	<b>10716.83</b>
	Discharge of liability		160.20	269.00	244.49	164.45	256.75
	<b>Total Additional capitalization claimed</b>		<b>1249.25</b>	<b>1917.27</b>	<b>2586.31</b>	<b>1489.06</b>	<b>10973.58</b>

12. We now examine the additional capital expenditure claimed by the Petitioner for the period 2014-19, as under:

***Ash Dyke Works of Lagoon 1 and 2 (Including Raising & strengthening)***

13. The Petitioner has claimed the total additional capital expenditure of Rs. 6478.91 lakh during the period 2014-19 (Rs. 181.69 lakh in 2014-15, Rs. 1192.63 lakh in 2015-16, Rs. 1626.14 lakh in 2016-17, Rs. 1576.23 lakh in 2017-18 and Rs. 1902.22 lakh in 2018-19) towards Ash dyke works of Lagoon-1 (including raising & strengthening) and a total additional capital expenditure of Rs. 2159.54 lakh during the period 2014-19 (Rs.494.02 lakh in 2014-15, Rs.296.64 lakh in 2015-16, Rs.329.72 lakh in 2016-17, Rs.805.51 lakh in 2017-18 and Rs.233.64 lakh in 2018-19) towards Ash dyke works of Lagoon-2 (including raising & strengthening) under Regulations 14(3)(iv) of 2014 Tariff Regulations. In justification for these works, the Petitioner has submitted that these are deferred works within the original scope for Ash dyke raising and strengthening, which was earlier allowed vide order dated 30.7.2016 in Petition No. 281/GT/2014. The Petitioner has also submitted that the Village Committee of the adjacent village to ash dyke Derange controls all minor minerals, and due to the dispute between the agency and village committee for the procurement of stone metals, some of the works got delayed. It has been further submitted that during the



high flood level in the river (Tikira) in July-October, sand collection becomes very negligible, and the preparatory work, after the procurement of sand, also poses a problem. The Petitioner has stated that the cumulative expenditure till 2018-19 is Rs. 90 crore as against the allowed amount of Rs. 134.02 crore, and the balance capitalisation will be claimed in the tariff Petition for the next tariff period.

14. The Respondents TANGEDCO, BSPHCL, and GRIDCO have submitted that the Petitioner has not furnished the details of the competitive bidding, the tender documents, the bidders qualified, and the bid evaluation report, the year-wise justification in support of the claim and for comparison thereof, with the claim allowed on a projection basis in an order dated 29.7.2016 in Petition No. 281/GT/2014. They have also stated that in respect of the claims for Lagoon 2, the Commission vide order dated 29.7.2016 in Petition No. 281/GT/2014 had not allowed the buttressing and strengthening of Lagoon-2 work, but had granted liberty to claim the same at the time of truing up of tariff, subject to production of a few documents, including the detailed break-up of the activities along with the cost incurred for each work under the head 'raising of Ash dyke works, the estimated expenditure envisaged for Ash handling system / Ash dyke raising within the original scope of work, the actual expenditure incurred as on COD of the generating station and from the COD to 2018-19, but the same had not been complied with by the Petitioner. In response, the Petitioner has clarified that, being a PSU, all works are awarded through competitive bidding, and it follows the best practises, including the selection of the most competitive bidder for the execution of the work. It has also submitted that in case, the Commission or the beneficiaries get into the bid documents for each capitalization/work awarded by it, the same may delay the process for determination of tariff /truing up of tariff. The Petitioner has submitted that the expenditure claimed was incurred after due approval, and the



auditor certificate has been furnished in support of the same. As regards the claim for Ash dyke lagoon 2, the Petitioner has submitted that as the research paper of NIT Rourkela was not completed, the Commission vide its order dated 29.7.2016 in Petition No. 281/GT/2014 had allowed some amount with liberty to claim the balance amount at the time of truing up of tariff, subject to the submission of the documentary evidence to justify the said work. The Petitioner has stated that the report of NIT Rourkela detailing the entire works to be carried out on Lagoon-2 was completed and the same, which supports the case of Petitioner, has been furnished with the petition.

15. The Commission, vide ROP of the hearing dated 6.1.2023, had directed the Petitioner to furnish the details of the year-wise of the Ash produced, the Ash transported, Ash utilized other than transportation, the capacity of the Ash dyke and Ash pond along with the detailed break-up of the cost incurred for each work along with a detailed note on the expenses associated with the ash dykes. The Petitioner, in compliance with the same, has furnished the details of ash as under:

Year	Ash produced (MT)	Ash transported (MT)	Ash utilized other than transportation (MT)	Capacity of ash dyke and pond (MT)
2014-2015	2173230	115252	880649	2700000
2015- 2016	2260538	139109	917796	2500000
2016-2017	2373811	120706	983822	2500000
2017-2018	2640144	97919	1221088	900000
2018-2019	2528430	338361	1156128	200000

16. The Petitioner has further submitted that at the time of commissioning of the Plant, the Plant Load Factor (PLF) envisaged was 62.5 %; however, as the plant is old and its depreciation almost recovered, power from the plant is fully scheduled and the PLF during 2014-19 increased to 85.95 % (2014-15: 85.48%; 2015-16: 89.42%; 2016-17: 87.06%; 2017-18: 87.66% and 2018-19: 80.15%). In addition, the Petitioner has stated that the lower quality of coal is being received at the generating station necessitating the storage of huge quantities of ash. The Petitioner has added that as



the generating station is remotely located and no ash utilization industries in the vicinity, only a small quantity is utilized in sectors such as brick industries, etc., and the total ash utilization during the period 2014-19 is in the range of 47-59 %, wherein, dyke raising constitutes a major part of the ash utilisation. The Petitioner has submitted that it has acted in a prudent manner and has undertaken all possible steps to enhance the ash utilisation, including selling and also an MoU with NHAI for ash transportation. However, due to the demand and supply mismatch, the sale of ash has not been possible. It has been stated that the ash is produced continuously due to the combustion of coal for electricity generation, and the entire ash produced cannot be utilised immediately, and the ash produced needs to be stored in the ash dyke and hence the raising of ash dykes are to be planned in an advance manner keeping in view the ash required to be stored. Accordingly, the Petitioner has submitted that the raising of the Ash dyke is a continuous process and occurs throughout the life of the generating station.

17. The Petitioner was directed, vide ROP of the hearing dated 6.2.2024, to submit the detailed scope of work completed during 2014-19 and the work envisaged during 2019-24 in respect of both Lagoon-1 and Lagoon- 2 along with the reasons for claiming the additional capitalization for Lagoon 2 during 2014-19, while the works are envisaged to be taken up during 2019-24. In response, the Petitioner has clarified that the works of Lagoon 2 were envisaged in three phases, i.e., dyke raising works, interim strengthening works, and final buttressing works. It has stated that during the period 2014-19, the 6<sup>th</sup> and 7<sup>th</sup> raisings were completed for both lagoons, and the same includes the execution of the works associated with the foundation, dyke embankment, earth slope protection, sand, rock toe, toe drain, and brick lining. It has also been submitted that the interim strengthening works for lagoon 2 were completed, which



includes earthwork excavation, laying of finger drains with 200 mm PVC pipes, construction of RCC chamber, sand work etc., The Petitioner has pointed out that while the increase in the storage capacity achieved after the 6<sup>th</sup> and 7<sup>th</sup> raisings in lagoon 1 is 19.07 lakh m<sup>3</sup> and 17.14 lakh m<sup>3</sup>, respectively, the storage capacity for lagoon 2 is 19.57 lakh m<sup>3</sup> and 16.57 lakh m<sup>3</sup> respectively. It has stated that the cumulative ash stored in the lagoon 1 and 2 as on 29.2.2024 is 270.80 lakh m<sup>3</sup> and 217.93 lakh m<sup>3</sup>. The Petitioner has added that the works envisaged for lagoon 1 are phases 2 and 3 of buttressing, and for that of lagoon 2 are phases 1 to 4 during the period 2019-24.

18. The submissions of the parties have been considered. It is noticed that the Commission vide order dated 29.7.2016, while allowing the 6<sup>th</sup> and 7<sup>th</sup> raisings for both lagoons 1 and 2 and for strengthening of lagoon 1, had granted liberty to the Petitioner to claim the strengthening of lagoon 2 at the time of truing-up of tariff along with documentary evidence to justify the works (recommendation of expert), the cost incurred for each work under the raising of Ash dyke works, the expenditure envisaged for Ash handling system / Ash dyke Raising within the original scope of work, the actual expenditure incurred as on COD of the generating station and from COD to 2018-19. The Petitioner has submitted two reports prepared by the consultants for lagoon 2, i.e., 'Interim strengthening' and 'strengthening & buttressing and Peripheral dyke raising', but has not submitted the head-wise expenses as on the date of COD, from COD to 31.3.2019 and the scope of works included in the strengthening and buttressing. However, as per the above reports, it is noticed that the height of the lagoons is 120 m, inclusive of the starter dyke with 99m and seven raisings each of 3m. Further, subsidence, cracks, sand boiling, and ash seepage were observed in the embankment of raising 2 of lagoon 1 and raisings 1 and 2 of lagoon 2. On investigation,



it was noticed that the rock toe of raising 2 of lagoon 1 was completely choked, and that of raisings 1 and 2 of lagoon 2 were severely damaged, and the chimney drains became dysfunctional. Thus, for safe operation, the buttressing of lagoons 1 and 2 will increase the height of the lagoons to 125 m and enhance the storage capacity thereof. However, as the buttressing takes appreciable time, interim measures such as the installation of pressure relief wells, construction of peripheral finger drain, new rock toe drain, etc, are required for the raising 1 and 2 of lagoon 1 and raising 1, 2 and 3 of lagoon 2. Accordingly, the Petitioner has carried out the raisings and strengthening of both the lagoons 1 and 2 and as part of the buttressing works for lagoon 1 during 2014-19, which provided the additional storage capacity of 88 lakh m<sup>3</sup> (6<sup>th</sup> and 7<sup>th</sup> raisings - 72 lakh m<sup>3</sup> and strengthening and buttressing 16 lakh m<sup>3</sup>). Further, the Petitioner is to take up the balance buttressing for lagoon 1 and complete the buttressing for lagoon 2 during 2019-24. In view of the above, the claim of the Petitioner towards the 6<sup>th</sup> raising, 7<sup>th</sup> raising, and strengthening of both lagoons 1 and 2, as well as part of the buttressing works of lagoon 1, is allowed under Regulation 14(3)(iv) of the 2014 Tariff Regulations, in the exercise of the powers under Regulation 54 of the 2014 Tariff Regulations.

***Strengthening of approach road to Stage-I Ash dyke (NH-53 junction to Madua Chowk via Y-point of Stage I)***

19. The Petitioner has claimed the total additional capital expenditure of Rs. 68.85 lakh during 2014-16 (Rs.52.09 lakh in 2014-15 and Rs. 16.76 lakh) towards the strengthening of the approach road to Stage-I Ash dyke (NH-53 junction to Madua Chowk via Y point of Stage I) under Regulation 14(3)(iv) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that these works are part of the deferred original scope of work of ash dyke raising and strengthening, as allowed by order dated 29.7.2016 in Petition No. 281/GT/2014. The Petitioner has also submitted



that the strengthening of the approach road to Stage-I ash dyke (RCC pavement from NH-53 junction to Madua Chowk via Y point of Stage I) was needed for the movement of heavy vehicles for material transportation, i.e., earth, boulders, sand of ash dyke raising work of Lagoon 1 and Lagoon 2 of Stage-I.

20. The Respondents GRIDCO, TANGEDCO, and BSPHCL have submitted that the said work was neither related to the Ash pond / Ash handling system nor was approved by order dated 29.7.2016, and the claim does not also qualify under Regulation 14(3)(iv) and hence, may be rejected. In response, the Petitioner has reiterated that the said work is related to ash dyke works since, without this, the ash dyke works could not be completed, and the claim is only towards the balance payment of works of RCC pavement.

21. The submissions of the parties have been considered. We note that the Petitioner had not claimed the said work in Petition No. 281/GT/2014. As regards the submission of the Petitioner that the claim has been made in the present Petition is only towards the balance payments, it is noticed that the work for this asset/item was awarded in 2014, and no claim was made prior to 2014-15. Further, the work is for the strengthening of the existing road but not for the construction of a new road. Also, no information has been furnished by the Petitioner to demonstrate how the said road is connected to the Ash dyke and its exclusive use thereof. Against this backdrop, the submissions of the Petitioner that the said work forms part of the original scope of work and is related to an ash pond/ash handling system is not acceptable. In view of this, the additional capitalisation claimed under this head is **not allowed**.

***Separate Ash Evacuation System of Stage-I Boiler and Economiser Hoppers***

22. The Petitioner has claimed the additional capital expenditure of Rs. 124.65 lakh in 2014-15 towards Separate Ash Evacuation System of Stage-I Boiler and





Economiser Hoppers under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that these works were allowed by order dated 29.7.2016 in Petition No. 281/GT/2014 and the minor deviation in expenditure is only with regard to the variation between the claim on a projection basis and the actuals.

23. The Respondents GRIDCO and BSPHCL have submitted that as the Petitioner has not furnished the details of competitive bidding, tender documents, the bidders qualified, the bid evaluation report and the comparison of the expenditure claimed with the projected expenditure allowed in an order dated 29.7.2016, the claim may be rejected. In response, the Petitioner has reiterated its submissions and also submitted that the claim for Rs.95 lakh is within the limit of Rs. 140 lakh allowed in an order dated 29.7.2016. The Petitioner has also submitted that there is a minor deviation in the claim as the same is with regard to the amount allowed vide order dated 29.7.2016 and the actual amount claimed.

24. The matter has been examined. It is noticed that the Petitioner, in justification for the said works, had, in Petition No. 281/GT/2014, submitted that in accordance with the directions of OPCB to bring down the emission levels to the prescribed standard of 100 mg/Nm<sup>3</sup> and to take steps to achieve emission standard of 50 mg/Nm<sup>3</sup>, an action plan was made, which includes both short term and long-term measures. It had stated that as part of the short-term measure to achieve a lower Suspended Particulate Matter (SPM), the up-gradation of ESP controllers was taken up during 2012-14, and the separation of hoppers of Boiler economiser and air pre-heater was completed in 2014-15, which was one of the special conditions of OSPCB in the consent order dated 13.1.2012. Accordingly, the Commission vide its order dated 29.7.2016 had allowed Rs. 140 lakh towards the modification of boiler ash evacuation system i.e. separation



of hoppers of Boiler economiser and air pre-heater. Against this background, the claim of the Petitioner for Rs. 124.65 lakh in 2014-15 towards the separation of hoppers of Boiler economiser and air pre-heater is **allowed** under Regulation 14(3)(ii) of 2014 Tariff Regulations.

***Replacement of Halon-based firefighting system with Inert gas firefighting system and augmentation of fire detection and fighting system***

25. The Petitioner has claimed the total additional capital expenditure of Rs. 240.06 lakh during 2014-16 (Rs. 230.55 lakh in 2014-15 and Rs.9.52 lakh in 2015-16) towards the replacement of Halon based firefighting system with the Inert gas firefighting system and augmentation of fire detection and fighting system under Regulation 14(3)(ii) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that these works were allowed by the Commission vide order dated 30.07.2016 in Petition No. 281/GT/2014.

26. The Respondents GRIDCO, BSHPCL, and TANGEDCO have submitted that the Commission, vide its order dated 29.7.2016 in Petition No. 281/GT/2014, had disallowed the expenditure towards augmentation of the firefighting system and had directed the Petitioner to meet the same from the compensation allowance allowed to the generating station. In response, the Petitioner has submitted that the said expenditure was allowed by order dated 29.7.2016, and the APTEL had held that when there is a specific provision for additional capitalization, the Petitioner cannot be relegated to a general provision to reject the claim and therefore, the said claim cannot be considered under compensation allowance and need to be considered under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

27. The matter has been examined. It is noticed that the Petitioner has claimed Rs. 240.06 lakh during 2014-16 for the 'replacement of Halon-based firefighting system



with Inert gas firefighting system and for the augmentation of fire detection and fighting system' in the summary sheet of the additional capital expenditure. However, in the year-wise additional capitalization claims, the said asset/item has been mentioned as 'replacement of Halon based firefighting system with Inert gas firefighting system.' Also, in Petition No. 436/GT/2020, the Petitioner has claimed the projected additional capital expenditure for the augmentation fire protection system. Thus, the claim in the present petition pertains to the replacement of a Halon-based firefighting system with an Inert gas firefighting system. It is also noticed that the said item was allowed by order dated 29.07.2016 in Petition No. 281/GT/2014. Accordingly, the claim of the Petitioner towards the replacement of a Halon-based firefighting system with an Inert gas firefighting system is **allowed** under Regulation 14(3)(ii) of the 2014 Tariff Regulations. Further, as the said work is for replacement and the Petitioner has not furnished any decapitalization details for the old asset, the same has been considered under assumed deletion.

***Payment of additional compensation and balance interest on the enhanced compensation for land as per Court orders***

28. The Petitioner has claimed the total additional capital expenditure of Rs. 233.07 lakh during 2014-19 (Rs.5.89 lakh in 2014-15, Rs.1.73 lakh in 2015-16, Rs.0.44 lakh in 2016-17 and Rs.225 lakh in 2018-19) towards the payment to additional compensation and balance interest on the enhanced compensation for land outsees as per the Court orders under Regulation 14(3)(i) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the additional compensation was paid to the land oustees as per the Court orders, and an amount of Rs. 1.29 lakh was paid to the land oustees in 2015-16 as per the directions of the Special Land Acquisition officer dated 18.05.2015 in Case No. LA 308/1992, and the balance of Rs 0.44 lakh is towards interest for higher payments in 13 such cases



related to land acquisition. The Petitioner has also submitted that pursuant to the decision taken in the 7<sup>th</sup> RPDAC meeting and the High-level committee meeting held under the chairmanship of the Hon'ble Minister of Revenue & DM, rehabilitation grant cash package to 15 no. of Station Affected Persons (SAP), each with Rs. 15 lakh was deposited with the District Administration as an additional compensation.

29. The Respondent TANGEDCO has submitted that the Petitioner has claimed an amount of Rs. 233.07 lakhs as an out-of-court settlement but has not furnished the details of the payment made, and in the absence of the same, the claim may be rejected.

30. The matter has been considered. As per the documents submitted, the Petitioner has paid Rs. 36265 / (Principal – Rs. 9645 /- and Interest – Rs. 26620 /-) in 2014-15, Rs. 129070 /- (Principal – Rs. 34327 /- and Interest – Rs. 94743 /-) in 2015-16 and Rs. 225.00 lakh in 2018-19. Since the payments made are in terms and directions of the Court, the Principal amount of Rs. 9645 /- in 2014-15, Rs. 34327 /- in 2015-16, and Rs. 225.00 lakh in 2018-19 is **allowed** under Regulation 14(3)(i) of the 2014 Tariff Regulations. As regards the payment of the interest amount of Rs. 26620 /- and Rs. 94743 /-, pertaining to 2014-15 and 2015-16, respectively, we, in order to balance the interest of both parties, allow the recovery of the said amount as one-time reimbursement as an additional O & M expenses, and the same shall not be made part of the annual fixed charges approved in this order.

***Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke***

31. The Petitioner has claimed an additional capital expenditure of Rs. 44.79 lakh in 2014-15 towards Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke under Regulation 14(3)(ii) and (iv) of the 2014 Tariff Regulations. In



justification, the Petitioner has submitted that the spreading of earth cover over dry ash is to control fugitive ash emission from the filled-up lagoons during ash dyke raising work and to arrest the flying of fugitive ash to nearby villages and is being done as part of the environmentally clean ash dyke raising work as there will not be any water cover in the lagoon as per direction of SPCB dated 11.3.2016.

32. Respondent TANGEDCO has submitted that as these works are not capital expenses but in the nature of O&M expenses, the claim may be rejected. The Commission, vide ROP of the hearing dated 6.1.2023, had directed the Petitioner to furnish the reasons for claiming the expenses on this count, over and above the compensation allowance granted to the generating station. In response, the Petitioner has submitted that while the claim is under Regulation 14(3)(ii) and (iv), the compensation allowance provided under Regulation 17 is to meet the expenses other than claimed under Regulation 14(3)(i) to (iv). The Respondent, GRIDCO, has submitted that while the claim is for 2014-15, the direction of SPCB is dated March 2016, which cannot be applicable retrospectively. It has also stated that as these works do not fall under the 'Deferred works relating to ash pond or ash handling system within the original scope of work', the claim may be met from the compensation allowance provided. In response, the Petitioner has submitted that OSPCB, vide its letters dated 4.4.2014 and 19.8.2014, had granted consent to operate the units, subject to compliance with certain terms and conditions, including the prevention and control of air and water pollution. It has been submitted that subsequently, the period of consent to operate was extended up to 31.3.2017, and therefore, the directions of OSPCB amount to a change in law.

33. The matter has been examined. It is noticed that SPCB, vide its orders dated 4.4.2014 and 19.8.2014 for consent to operate, has indicated for a water sprinkling



arrangement to prevent fugitive emission at the dry surface of the ash disposal area. It is also noticed that the Petitioner has claimed these expenses during the period 2009-14 and the Commission had allowed the said claim on this count. In addition to this, the Petitioner has claimed the said works for additional capitalization in 2014-15. In the above background and considering the fact that the said works are of a recurrent nature, the claim of the Petitioner for additional capitalization is **not allowed**.

***Extension of boundary wall from MGR to Ambapal level crossing***

34. The Petitioner has claimed an additional capital expenditure of Rs. 2.86 lakh in 2014-15 towards the Extension of the boundary wall from MGR to Ambapal level crossing under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification, the Petitioner submitted that the MGR track yard is very close to NH-53, and with the setting up of new industrial units, i.e., Kaniha OCP, Jindal Power plant, etc., around the vicinity, the vehicular traffic has increased manifold. It has also been submitted that the increased security perception was deliberated in the Site security committee with the CISF, and the plant boundary was extended to increase the safety and security of the plant.

35. The Respondent TANGEDCO has submitted that since the work is not capital in nature but is in the nature of O&M expenses, the claim may be rejected. The Commission vide ROP of the hearing dated 6.1.2023 had directed the Petitioner to furnish the reasons for claiming the said expenses over and above the compensation allowance allowed. In response, the Petitioner has clarified that while the claim is under Regulation 14(3)(ii) and (iv), the compensation allowance provided under Regulation 17 is to meet the expenses other than the expenses claimed under Regulation 14(3)(i) to (iv). The Respondent, GRIDCO, has submitted that as per the MoM dated 5.6.2010 between the CISF and the Petitioner, it is noticed that CISF had



recommended the strengthening of MGR Workshop and Yard by the construction of a boundary wall/fencing, but not the boundary wall from MGR to Ambapal Level crossing. In response, the Petitioner has reiterated that the said MoM clearly mentioned that the security of MGR is important, and the same has to be strengthened by building a boundary wall.

36. The matter has been examined. It is noticed that while the said MoM relied upon by the Petitioner for the safety and security of MGR is related to June 2010, the claim of the Petitioner relates to 2014-15. It is also noticed that the MoM mentions only the strengthening of security of MGR and yard by construction of a boundary wall/fencing, but not the wall from MGR to Ambapal crossing. In view of this and since the expenditure incurred is in the nature of O&M expenses, the claim is **not allowed**.

#### ***Upgradation of ESP of Stage-I***

37. The Petitioner has claimed a total additional capital expenditure of Rs. 8627.53 lakh (Rs. 14.24 lakh in 2015-16 and Rs. 8613.29 lakh in 2018-19), on a cash basis, towards the Upgradation of ESP of Stage-I under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that these are for the supply and erection of Renovation & Retrofitting of ESP Package for the generating station and that these works were allowed vide order dated 29.7.2016 in Petition No. 281/GT/2014.

38. Respondent GRIDCO has submitted that as the provisions of the 2014 Tariff Regulations do not provide for allowing Interest During Construction (IDC) on the additional capital expenditure, the claim may be disallowed. It has also been submitted that the Petitioner has not furnished any details of the competitive bidding, tender documents for the replacement of Collecting Electrode, High Voltage Rectifier of





95KV, Retrofitting of New Fields and modification of the Outlet Duct and Duct Supporting Structure, bidders qualified, Bid evaluation report, Commercial Operation Certificate from SPCB, its Benchmark cost, Performance report from SPCB, etc. In response, the Petitioner has clarified that the principles of capital determination, i.e., Regulation 10, provide for IDC, and the same principle shall apply for the additional capitalization. It has also stated that Regulation 15 pertaining to R & M and Form 9A provides for IDC and that since the additional capitalization is being funded by debt and equity, the capitalization of assets always includes IDC.

39. The Commission, vide ROP of the hearing dated 6.1.2023, had directed the Petitioner to furnish the details of the total scope of work, the works completed, decapitalization, etc, along with supporting documents. In response, the Petitioner has submitted that the existing four passes of ESP of Stage-I are of BHEL make, and over a period, the particulate emission has, on the one hand, increased due to the variation in the coal characteristics as well as the plant operating condition. It has also stated that, on the other hand, in order to contain the air pollution in the vicinity, an action plan has been implemented by including Renovation & Retrofitting of the existing ESPs to limit the particulate emission level to less than 50 mg/Nm<sup>3</sup>, wherein, the collection area has to be increased. In R & M design, the gas flow rate of 1000 m<sup>3</sup>/sec, the gas temperature of 155 °C, the inlet dust burden as 60 mg/Nm<sup>3</sup>, outlet emission as 44 mg/Nm<sup>3</sup> are considered, and the required efficiency of the collector was 99.927 %. It has also been submitted that each ESP pass had 64 fields (56 working fields and 8 dummy fields) with 300 mm pitch, and in order to enhance the collection area, all existing internals of ESP i.e., electrical items transformer rectifiers, power supply and control panels were dismantled and replaced with new internals of 15 M height collecting electrode and emitting electrodes of 400 mm pitch design, new power supply



panels, latest controllers etc, and two new number fields were also added. However, the existing ESP supporting structure, foundation, hoppers, and ESP casing, service transformers were retained. Thus, the modified passes are provided with 80 fields per unit and each pass is provided with 10 fields, and the collection area increased from 153090 m<sup>2</sup> to 221760 m<sup>2</sup>. The Petitioner has further submitted that the ESP upgradation was completed on 25.9.2018, and there is no decapitalization as on 31.3.2019. However, in case of any de-capitalisation, the same will be provided at the time of truing-up of tariff for the period 2019-24.

40. The matter has been examined. In order to achieve the emission levels as per the CEPI action plan, i.e., 50 mg/Nm<sup>3</sup>, the Petitioner has taken up the said works, and the same was allowed vide order dated 29.7.2016 in Petition No. 281/GT/2014. It is also noticed that in order to achieve the aforesaid emission level, the Petitioner has awarded the said work to BHEL, wherein the collection area was increased by 45 % with the replacement of the existing field of 13.5 m with 15 m field, in addition of the two new fields. It is further observed that the Petitioner has claimed a total additional capital expenditure of Rs. 8627.53 lakh, on a cash basis (Rs. 9838.29 lakh on an accrual basis), which is inclusive of Rs. 198.16 lakh as IDC in 2018-19. As regards the details provided with regard to the award of the contract, it is noticed that out of four purchase orders placed to M/s BHEL, one Purchase order dated 14.7.2020 is Rs. 98.33 lakh for Procurement of mandatory spares. However, as the claim of Rs 98.33 lakh is beyond the period 2014-19 and is also for mandatory spares, over and above the norms allowed under relevant regulations, the same has **not been considered**. Accordingly, Rs. 14.24 lakh in 2015-16 and Rs. 8514.96 lakh in 2018-19 are allowed, exclusive of mandatory spares claimed, under Regulations 14(3)(ii) of 2014 Tariff Regulations. Though the works are for dismantling and replacement and the Petitioner



has not furnished any decapitalization value for these assets, the same is considered under assumed deletion.

***Installation of Continuous Emission Monitoring System (CEMS)***

41. The Petitioner has claimed the total additional capital expenditure of Rs. 109.35 lakh (Rs.109.14 lakh in 2015-16 and Rs.0.20 lakh in 2016-17) towards the installation of Continuous Emission Monitoring System (CEMS) under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that as per directions of the State Pollution Control Board (SPCB) in the consent to operate dated 11.3.2016, CEMS was installed at the generating station for ambient air quality control.

42. Respondent GRIDCO has submitted that the Petitioner has not furnished the details of competitive bidding, tender documents, bidders qualified, bid evaluation report etc; the Respondents, GRIDCO and TANGEDCO have submitted that the Petitioner has not furnished details like date of completion of the above work, commercial operation certificate from the SPCB, its benchmark cost, the performance of the emission monitoring system from SPCB and therefore, the claim may be rejected. In response, the Petitioner has submitted that the SPCB, vide its CTO order dated 11.3.2016, has directed all industries, including this power plant, for the installation of CEMS, and therefore, the same was installed under 'change in law' to comply with above order of SPCB.

43. The matter has been considered. It is noticed that the CPCB, in its letter dated 5.2.2014 addressed to the State Pollution Control Boards (SPCB) and Pollution Control Committees (PCC), has directed 17 categories of highly polluting industries, including the thermal power plants to install the Online Continuous Stack Emission Monitoring Systems (CSEMS) for measurement of the parameters, viz., Particulate



Matter, Ammonia, SO<sub>2</sub> (Sulphur Dioxide), NO<sub>x</sub> (Oxides of Nitrogen), etc; online Effluent Quality Monitoring System at the outlet of Effluent Treatment Plants for the measurement flow, pH, COD, BOD, TSS, etc; and to connect and upload the Online emission and Effluent Monitoring data at SPCBs / PCCs and CPCB server, in a time bound manner, but not later than by 31.3.2015. Further, OSPCB, vide its order dated 11.3.2016, has mandated the Petitioner for the effective and uninterrupted operation of CEMS and to transfer the online generated data to SPCB and CPCB servers continuously. Since the claim of the Petitioner is for compliance with the existing law/directions of the statutory authority, the claim for CEMS **is allowed** under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner is, however, directed to upload the online data on servers of CPCB, SPCB, and PCC and also share such data with the beneficiaries, and submit the details of decapitalization of the old assets that were used for ambient air quality at the time of truing up of tariff for the period 2019-24.

***Arbitration award to Raghul construction against the construction of project enabling works***

44. The Petitioner has claimed an additional capital expenditure of Rs. 35.80 lakh in 2015-16 towards the Arbitration award to Raghul Construction against the construction of project enabling works under Regulation 14(3)(i) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the arbitration with the said contractor has been done for the construction of project works within the original scope as per order and the award of arbitration was made as per new accounting principles.

45. Respondent TANGEDCO has submitted that Petitioner has claimed Rs. 35.80 lakh for the said item but has not furnished the details of the payment made, and in the absence of the same, the claim may be rejected. The Commission vide ROP of



the hearing dated 6.2.2024 sought the detailed break-up for the amount of Rs. 35.80 lakh claimed, the penalty levied by the Arbitrator; the IDC capitalized on account of the delay in the execution of works associated with the said matter. In response, the Petitioner has clarified that the award of arbitration in favor of contractor is for Rs. 36,76,076 /- (final bill for Rs. 2275549 /-, Compensation for prolonged contract not attributable to contractor for Rs. 807555 /- and escalation in the market price for Rs. 592972 /-) and the interest on capital cost of Rs 96,402 /- in favour of Petitioner. Thus, the claim of the Petitioner in the present petition is for Rs. 35.80 lakh (Rs. 36,76,076 - Rs. 96402).

46. The matter has been considered. It is noticed that due to disputes regarding the payments, M/s Raghu Construction, the contractor engaged for the 'Construction of balance work of the CW system Part II (Make up water pump house stage II & III)', approached arbitrator and made 8 claims (i. Final Bill; ii. Compensation for prolongation of contract; iii. Turnover loss; iv. Escalation after expiry of contract; v. Interest; vi. Compensation for accidental death; vii. Construction of approach road and viii. Interest on award) and the Petitioner had also made three counter claims (i. Balance of free owner-issued material; ii. Compensation; and iii. Recovery). The arbitrator vide his order dated 14.3.2014 observed that the Petitioner had not provided the necessary facilities as per the timelines to the contractor, and the delay in the execution of works is purely attributed to the Petitioner, but not to the contractor. After considering the submission of the parties, the arbitrator had allowed three claims of the contractor (i. Final Bill – Rs. 2275549 /-; ii. Compensation for prolongation of contract – Rs. 807555/-; and iii. Escalation after the expiry of contract – Rs. 592972 /- ) and one counter claim of the Petitioner (balance of free owner issued material – Rs. 96402 /-). As regards the award of arbitration for the final bill, it is noticed that the same



includes an amount of Rs. 1078725 /- towards the non-scheduled items and Rs. 184968 /- pertains to the security deposit made by the contractor with the Petitioner. Since the delay in the execution of works is being purely attributed to the Petitioner, the claim associated with the nonscheduled items, compensation for prolongation of the contract, and escalation are **not allowed**. Also, as the security deposit of the contractor is with the Petitioner, the same is also **not considered**. Further, as the balance of free owner-issued material forms part of the capital cost, the same has been considered for adjustment. Accordingly, an amount of Rs. 915455 /- is **allowed** in 2015-16 under Regulation 14(3)(i) of the 2014 Tariff Regulations.

***Installation of Seepage water Recirculation system (SWRS)***

47. The Petitioner has claimed a total additional capital expenditure of Rs. 575.69 lakh during 2016-19 (Rs. 494.88 lakh in 2016-17, Rs.73.71 lakh in 2017-18, and Rs.7.10 lakh in 2018-19) towards the Installation of Seepage Water Recirculation System (SWRS) under Regulation 14(3)(ii) of 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that as per the direction of the State Pollution Control Board (SPCB) in the consent to operate letter dated 11.3.2016, SWRS was installed at the generating station and also these works were allowed vide order dated 29.7.2016 in Petition No. 281/GT/2014.

48. The Respondents GRIDCO and BSPHCL have submitted that the Commission vide its order dated 29.7.2016 in Petition No. 281/GT/2014 had directed the Petitioner to submit the reasons for the delay in completion of works, if any, at the time of truing up of tariff, but the Petitioner has not submitted any such details. The Respondent, BSPHCL has submitted that as per directions of the OSPCCB dated 13.1.2012, the works were to be completed by 30.6.2016. In response, the Petitioner has submitted that as the OSPCCB has highlighted the issue of overflow of ash dyke seepage water



into the adjoining Tikira River, the subject work was awarded to M/s Samal Builders Pvt. Ltd. It has stated that as the subject work is a specialized job, there was an initial delay in the award of the proposal, but the work was completed within the scheduled time frame as per the awarded contract.

49. The Commission vide ROP of the hearing dated 6.1.2023 had sought details of the total amount claimed, the amount allowed, the amount incurred as on date, the amount to be incurred, the time overrun and cost overrun, etc, along with the supporting documents. In response, the Petitioner has clarified that the Commission vide order dated 29.7.2016 in Petition No. 281/GT/2014 had allowed an expenditure of Rs. 2274.00 lakh for the said work. However, the Petitioner has submitted that an amount of Rs. 575.96 lakh has been claimed during the period 2014-19, and the balance of works, if any, shall be carried out during the period 2019-24. As regards the delay in the execution of works, the Petitioner has submitted that the delay in the construction of pump house 2 was due to slushy and waterlogged conditions at the site, protests raised by villagers during the construction, etc.

50. The matter has been examined. We note that the Petitioner in Petition No. 281/GT/2014 had submitted that OSPCB vide its consent to operate dated 13.1.2012, has observed the overflow of ash dyke seepage water falling into river Tikira and had directed Petitioner to complete the recycle seepage and overflow effluent of the ash pond. It is also noticed that in line with the above, the Petitioner had taken up the construction of the seepage water re-circulation pump house at different locations of ash dyke, wherein, the scheme will enable pumping back the seepage water from ash dyke lagoons to overflow lagoon and result in zero discharge. It is, however, observed that while the Petitioner in the original petition had submitted that the work has been completed, in the subsequent pleadings, has submitted that the balance works, if any,





would be claimed during the period 2019-24. However, considering the fact that the said works are being carried out in compliance with the direction of the OSPCB, the claim of the Petitioner is **allowed** under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner shall submit the scope of the works projected at the time of inception of the scheme, the scope of works completed during the period 2014-19 and works carried out, if any, during the period 2019-24, reasons for the large variation in projected expenditure and the actual expenditure, etc., at the time of truing-up of tariff along with the supporting documents.

### ***Ash Handling Plant (AHP) for Unit 1***

51. The Petitioner has claimed an additional capital expenditure of Rs. 389.38 lakh in 2017-18 towards the Ash Handling Plant (AHP) for Unit-1 under Regulation 14(3)(iv) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the augmentation of the ash slurry pump series (4<sup>th</sup> ash slurry series) was allowed by the Commission vide order dated 29.7.2016 in Petition No. 281/GT/2014. The Respondent, GRIDCO, has submitted that as the Petitioner has not furnished the details of competitive bidding, tender documents, bidders qualified, bid evaluation report, and the comparison of the expenditure claimed with the amount allowed on a projection basis as, in order dated 29.7.2016, the claim may be rejected. In response, the Petitioner has submitted that the said asset/ item was allowed in an order dated 29.7.2016, and since the claim in the present petition is deferred work, no justification is required at this stage.

52. The matter has been examined. It is noticed that the Petitioner in Petition No. 281/GT/2014 had claimed an expenditure of Rs. 630 lakh for the said works, and the Commission had allowed the same vide order dated 29.7.2016. The Petitioner has submitted that the said work forms part of the original scope of work and is required to



provide for sufficient pumping head to meet the raising of the ash dyke. Also, the scope of work includes the installation of an additional pump in the existing series, along with the creation of a space for the new pump in the existing ash slurry pump house and a suitable relocation of the existing pipelines. Though the said work was initiated in 2011-12, however, due to the space constraints and alignment of the pump and its associated system with the existing system, the finalization of the design and poor response of the vendors have necessitated the need for sufficient time, the work was awarded only on 1.5.2013 to one qualified party. Considering the above submissions and since the said work forms part of the original scope of work, which was allowed vide order dated 29.7.2016, the claim of the Petitioner is **allowed** under Regulation 14(3)(iv) of the 2014 Tariff Regulations.

***Adjustment amount towards Wet Ash Disposal System for boiler hoppers-ST-I***

53. The Petitioner has claimed an additional capital expenditure of Rs. (-) 0.74 lakh in 2017-18 and Rs. (-) 0.42 lakh in 2018-19 towards the Cost adjustment of the wet ash disposal system for boiler hoppers Stage 1 under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that these works were allowed by order dated 29.07.2016 in Petition No. 281/GT/2014, and the same was majorly capitalized in 2014-15, and the subject adjustment is towards the said capitalization. As the said adjustments pertain to 2014-15, the claim is **allowed**.

***Replacement of CFL / HPSV with energy-efficient LED Lighting***

54. The Petitioner has claimed a total additional capital expenditure of Rs. 327.80 during 2017-19 (Rs. 115.91 lakh in 2017-18 and Rs. 211.89 lakh in 2018-19) towards the Replacement of CFL / HPSV with energy-efficient LED Lighting under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has



submitted that the Hon'ble Prime Minister of India, on 5.1.2015, launched the National LED Programme with the objective of reducing energy consumption, by using energy-efficient lighting. In line with the objective, Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme is being implemented by EESL. In this regard, the Ministry of Power (MoP), GOI, vide letter dated 2.8.2017, has mandated the Petitioner to replace all old bulbs with LED bulbs in all NTPC buildings, including compound/street lighting occupied by Petitioner. The Petitioner has also submitted that since any directions of Govt. of India have the force of Law and are required to be implemented, in order to comply with directions of Govt. of India dated 02.08.2017, it has taken up the work of replacing the old lights with LED lighting in the premises of the station compound/building owned and operated by the Petitioner.

55. The Respondents, GRIDCO, BSPHCL, and TANGEDCO, have submitted that the expenses claimed are in the nature of O & M expenses. While the Respondent, TANGEDCO, has submitted that there is no provision under the 2014 Tariff Regulations for considering the claim, the Respondent, GRIDCO, has submitted that the proposed expenditure would result in the saving of aux energy and benefits thereof to the Petitioner and hence, the same may not be allowed. In response, the Petitioner has reiterated its submissions made in the petition and has also submitted that the claim may be considered under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In addition, the Petitioner has stated that any saving in the auxiliary consumption is shared with beneficiaries. Also, the Petitioner vide additional submissions dated 6.4.2022 has submitted that the MOP, GOI letter dated 2.8.2017 is an executive order and is a direction of the Appropriate Government under the Electricity Act, 2003.

56. We have considered the matter. In our view, the MOP GOI letter is recommendatory in nature and cannot be construed as a 'change in law' event or



compliance with an existing law. Moreover, the benefits of replacing the existing lighting system with an LED lighting system accrue to the Petitioner. In view of the above, the additional capital expenditure claimed on account of the installation of an LED lighting system is **not allowed**.

### ***Decapitalization of Spares***

57. The Petitioner has claimed the de-capitalisation of capital spares forming part of the admitted capital cost of Rs. 47.49 lakh in 2014-15, Rs. 20.54 lakh in 2015-16, Rs. 109.57 lakh in 2016-17, Rs. 1635.39 lakh in 2017-18 and Rs. 475.90 lakh in 2018-19, under Regulation 14(4) of the 2014 Tariff Regulations, which provides that in case of de-capitalisation of assets, the original cost of such asset shall be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalisation claimed under this head is **allowed** for the purpose of tariff.

### ***Cost adjustment towards works allowed for 5<sup>th</sup> raising lagoon I and spreading of earth cover over dry ash***

58. The Petitioner has claimed the cost adjustment of Rs. (-)1.67 lakh and Rs. (-) 0.17 lakh in 2015 -16 in respect of the work of Phase-II strengthening of Raising-I and for the 5<sup>th</sup> raising of Lagoon-I of Stage-I allowed in 2012 -13, and the work of spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke claimed in 2014-15, respectively. In view of the above and since the adjustment of Rs. (-) 1.67 pertains to the period prior to 1.4.2014, the same **is considered** in 2014-15. However, the adjustment of Rs. (-) 0.17 is not allowed, as the subject claim has not been allowed.

### ***Decapitalization of Intelligent Controller of ESP***

59. The Petitioner has claimed the de-capitalisation of the commissioning of the intelligent controller of ESP for Rs.5.82 lakh in 2015-16. In justification for the same, the Petitioner has submitted that the said decapitalisation is against the installation of



ESP intelligent controllers, which was allowed during the period 2009-14. In view of this, the decapitalization of Intelligent Controllers of ESP, as claimed, is **allowed**.

### **Assumed Deletions**

60. As per consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is to be allowed for the purpose of tariff, provided that the capitalization of the said asset is followed by the de-capitalization of the original value of the old asset. However, in certain cases, where decapitalization is affected in books during the following years, to the year of capitalization of a new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization, which is not a book entry in the year of capitalization is termed as "Assumed deletion". Further, in the absence of the gross value of the asset being de-capitalized, the same is calculated by de-escalating the gross value of the new asset @ 5% per annum till the year of capitalization of the old asset.

61. It is observed that the Petitioner, while claiming the additional capital expenditure in 2018-19, has not provided the de-capitalization value of the old asset for some of the items that were being replaced. Accordingly, based on the above methodology, the decapitalized value of the old asset has been worked out as under.

*(Rs. in lakh)*

		2014-15	2015-16	2016-17	2017-18	2018-19
Replacement of Halon based firefighting system with Inert gas firefighting system	Additional capitalization allowed	230.55	9.52	-	-	-
	Decapitalisation determined (under assumed deletions)	100.59	3.95			
Upgradation of ESP	Additional capitalization allowed	-	14.24	-	-	8514.96
	Decapitalisation determined (under assumed deletions)		5.92			3056.38
<b>Total Assumed Deletion</b>		<b>100.59</b>	<b>9.87</b>	<b>-</b>	<b>-</b>	<b>3056.38</b>



## **Exclusions**

62. The summary of exclusions from the books of accounts, as claimed by the Petitioner, is as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Items not allowed during the period 2009-14	860.93	1,173.04	436.48	804.41	-6.66
Items not allowed during the period 2009-14	(-)508.83	(-)443.46	-	-	(-)1,131.13
Decapitalisation of MBOA- Part of capital cost	-	(-)110.93	-	(-)78.72	(-)11.76
Decapitalisation of MBOA- Not Part of capital cost	-	-	-	(-)0.32	(-)4.59
Capital spares capitalisation	509.47	480.27	144.30	392.94	831.86
Cost adjustment towards capital spares capitalised	-	-	-	-	(-)526.18
Decapitalisation of Spares during the year: Not part of capital cost	(-)554.50	(-)322.25	(-)148.15	(-)323.46	(-)142.66
Scheme of power supply within 5 km radius.	0.65	-1,358.27	-	-	-
<b>Total Exclusions claimed</b>	<b>307.71</b>	<b>(-)581.59</b>	<b>432.63</b>	<b>794.85</b>	<b>(-)991.11</b>

### **Capitalization of Items not allowed during 2009 -14**

63. The Petitioner has claimed an amount of Rs. 860.93 lakh in 2014-15, Rs. 1173.04 lakh in 2015-16, Rs. 436.48 lakh in 2016-17, Rs. 804.41 lakh in 2017-18, and Rs. (-) 6.66 lakh in 2018-19 under exclusion, towards items that were not allowed during the period 2009-14. Considering this, the exclusion under this head, as claimed by the Petitioner, is **allowed**.

### **Capitalisation of capital spares**

64. The Petitioner has claimed exclusion of capital spares for Rs. 509.47 lakh in 2014-15, Rs. 480.27 lakh in 2015-16, Rs. 144.30 lakh in 2016-17, Rs. 392.94 lakh in 2017-18 and Rs. 831.86 lakh in 2018-19. Further, an amount of Rs. (-) 526.18 lakh is claimed as an adjustment towards capital spares. In justification for the same, the Petitioner has submitted that as capital spares capitalized after the cut-off date, are not allowable as per the 2014 Tariff Regulations, the same has been claimed as



exclusion. As the capitalization of spares over and above initial spares procured after the cut-off date of the generating station is not allowed as part of capital cost, the claim of the Petitioner for exclusion of subject items is **allowed**.

***Decapitalization of Items not allowed during 2009-14***

65. The Petitioner has claimed the exclusion of de-capitalisation of various items for Rs. 508.33 lakh in 2014-15, Rs. 443.46 lakh in 2015-16, and Rs.1131.13 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as the capitalisation of expenditure against these items was not allowed during 2009-14, the de-capitalisation of the same has been claimed as exclusions. In this regard, it is noticed that the claimed items were put into use prior to the COD/cut-off date of the plant and formed part of the capital cost. It is further noticed that the amount of Rs. 443.46 lakh claimed in 2015-16 is exclusive of an amount of Rs. 5.82 lakh considered towards intelligent controllers of ESP. Accordingly, in line with Regulation 14(4) of the 2014 Tariff Regulations, the claim of the Petitioner for exclusion under this head is **not allowed**.

***De-capitalisation of MBOA items (part of capital cost)***

66. The Petitioner has claimed the exclusion of de-capitalisation of MBOA items for Rs. 110.93 lakh in 2015-16, Rs. 78.72 lakh in 2017-18 and Rs. 11.76 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as the capitalisation of expenditure against these items is not being allowed for the purpose of tariff under the 2014 Tariff Regulations, the de-capitalisation of the same has been claimed as exclusions. It is noticed that the claimed items were put to use prior to the COD/cut-off date of the plant and formed part of the capital cost. Accordingly, in line with Regulation 14(4) of the 2014 Tariff Regulations, the claim of the Petitioner for exclusion under this head is **not allowed**.





***De-capitalisation of MBOA's (not part of capital cost)***

67. The Petitioner has claimed the exclusion of de-capitalisation of MBOA items for Rs. 0.32 lakh in 2017-18 and Rs. 4.59 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as these MBOAs do not form part of the allowed capital cost of the generating station, their de-capitalisation has been claimed as exclusions. Since these assets do not form part of the capital cost, the exclusion claimed under this head is **allowed**.

***De-capitalisation of spares (not part of capital cost)***

68. The Petitioner has claimed the exclusion of de-capitalisation of capital spares for Rs. 554.50 lakh in 2014-15, Rs. 322.25 lakh in 2015-16, Rs. 148.15 lakh in 2016-17, Rs. 323.46 lakh in 2017-18 and Rs. 142.66 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as these capital spares are not part of the capital cost allowed, their de-capitalisation has been claimed under the exclusion. As these assets do not form part of the capital cost, the exclusion claimed under this head is **allowed**.

***Ind AS adjustment (Overhauling)***

69. As regards Overhauling, the reconciliation statement submitted by the Petitioner indicates an expenditure of Rs. 1818.07 lakh in 2016-17 and Rs. 2913.56 lakh in 2017-18, with the corresponding negative entries of the same amounts as Ind-As adjustment (Overhauling). As such, after adjustment, the net claim against overhauling reduces to zero as per IGAAP. Since the expenditure on overhauling forms part of the normative O&M expenses, the accounting adjustment leading to zero expenditure is in order and does not impact the claim made by the Petitioner. Therefore, the exclusion claimed by the Petitioner is **allowed**.



### **Scheme of power supply within 5 km radius**

70. The Petitioner has claimed the exclusion of expenses towards building of infrastructure for the supply of power to villages adjoining the power plant within the 5 km radius for Rs. 0.65 lakh in 2014-15, Rs. 1.53 lakh in 2015-16, and Rs. (-)1358.27 lakh in 2016-17. In justification for the same, the Petitioner has submitted that the Commission vide its order dated 20.7.2016 in Petition No. 207/GT/2016 for the period 2009-14 had allowed the expenditure towards the building of infrastructure under the 5 km scheme as reimbursement. The same has been handed over to the local Discoms and a certificate to the same effect was submitted vide affidavit dated 12.3.2014 in Petition No. 207/GT/2016. Presently, the asset has been taken out from the books of account as per the Accounting Policy, and thus, the same has been claimed under exclusion. As the claim was allowed as reimbursement and does not form part of the capital cost, the claim of Rs. Rs.0.65 lakh in 2014-15 and Rs.1.53 lakh in 2015-16 have been **allowed** as reimbursement, and Rs. (-) 1358.27 lakh in 2016-17 is **allowed** as exclusion.

71. Based on the above, the summary of exclusions allowed and disallowed is summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital works undertaken for technological up-gradation & reliability of operation.	860.93	1173.04	436.48	804.41	-6.66
Decapitalisation against Capital works undertaken for technological up-gradation & reliability of operation: part of capital cost	0.00	0.00	-	-	0.00
Decapitalisation of MBOA- Part of capital cost	--	0.00	-	0.00	0.00
Decapitalisation of MBOA- Not Part of capital cost	-	-		-0.32	-4.59
Capital spares capitalisation	509.47	480.27	144.30	392.94	831.86
Cost adjustment towards capital spares capitalised	-	-	--	-	-526.18



Ind-As Adjustment (overhauling)	-	-	-	-	-
Decapitalisation of Spares during the year: Not part of capital cost	-554.50	-322.25	-148.15	-323.46	-142.66
5km scheme	0.65	-1358.27	-	-	-
<b>Total Exclusions allowed</b>	<b>816.54</b>	<b>(-)27.21</b>	<b>432.63</b>	<b>873.57</b>	<b>151.78</b>
<b>Total Exclusions disallowed</b>	<b>(-) 508.83</b>	<b>(-) 554.39</b>	<b>-</b>	<b>(-) 78.72</b>	<b>(-) 1142.89</b>

### **Discharge of liabilities**

72. The discharges of liabilities claimed by the Petitioner are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Out of liabilities deducted as on 1.4.2014	160.20	110.51	1.00	0.00	0.00
Other liabilities	0.00	158.49	243.49	164.45	256.75
<b>Total</b>	<b>160.20</b>	<b>269.00</b>	<b>244.49</b>	<b>164.45</b>	<b>256.75</b>

73. The discharge of liabilities, as claimed, as above, is in order and has been considered for the purpose of tariff. However, for the discharge of liability of the additional capitalizations, which were disallowed as discussed above, the corresponding liabilities are also reduced from the amount of discharges. Further, considering the reversal of liabilities during the period 2014-19, which corresponds to the admitted capital cost, the flow of un-discharged liabilities corresponding to the admitted capital cost is as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening liabilities	637.33	692.40	1018.90	1151.81	1422.16
B	Addition during the year	279.37	581.89	379.06	432.28	2056.81
C	Discharges during the year	160.20	255.39	226.85	161.93	256.75
D	Reversal during the year	64.1	0.00	19.30	0.00	0.00
E	Closing liability (A+B-C-D)	692.40	1018.90	1151.81	1422.16	3222.22

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

		<i>(Rs. in lakh)</i>					
		2014-15	2015-16	2016-17	2017-18	2018-19	Total
<b>A</b>	<b>Allowed Works</b>						
1	Ash dyke works of Lagoon 1 (Including Raising & strengthening)	181.69	1,192.63	1,626.14	1,576.23	1,902.22	<b>6,478.91</b>
2	Ash dyke works of Lagoon 2 (Including Raising & strengthening)	494.02	296.64	329.72	805.51	233.64	<b>2,159.54</b>



		2014-15	2015-16	2016-17	2017-18	2018-19	Total
3	Other ash dyke works of stage-I	-	-	-	389.38	-	389.38
4	Strengthening of approach road to Stage-I ash dyke ( NH-53 junction to Madua Chowk via Y-point of Stage-I).	-	-	-	-	-	0.00
5	Separate Ash evacuation system of stage-I boiler and economizer Hoppers	124.65	-	-	-	-	124.65
6	Adjustment amount towards Wet Ash Disposal System for boiler hoppers-ST-I	(-)1.17					(-)1.17
7	Replacement of Halon based firefighting system with Inert gas firefighting system and augmentation of fire detection and fighting system.	230.55	9.52	-	-	-	240.06
8	Upgradation of ESP of Stage-I	-	14.24	-	-	8,514.96	8529.20
9	Installation of Seepage water Recirculation system (SWRS) .	-	-	494.88	73.71	7.10	575.69
10	<b>SUB Total</b>	<b>1,029.73</b>	<b>1,513.03</b>	<b>2,450.75</b>	<b>2,844.83</b>	<b>10,657.92</b>	<b>18,496.27</b>
<b>B</b>	<b>New claims</b>						
1	Installation of Continuous emission monitoring system package (CEMS)	-	109.14	0.20	-	-	109.35
2	Payment of additional compensation and Balance interest on enhanced compensation for land as per court orders.	0.10	0.34	-	-	225.00	225.44
3	Arbitration award to Raghul Construction against construction of project enabling works.	-	9.15	-	-	-	9.15
4	Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke.	-	-	-	-	-	0.00
5	Extension of boundary wall from MGR to Ambapal level crossing.	-	-	-	-	-	0.00
6	Replacement of CFL/HPSV with energy efficient LED lighting	-	-	-	-	-	0.00
7	<b>SuB Total</b>	<b>0.10</b>	<b>118.64</b>	<b>0.20</b>	<b>0.00</b>	<b>225.00</b>	<b>343.94</b>
<b>C</b>	<b>Decapitalization and Negative cost adjustment</b>						
1	Cost adjustment against allowed work of Phase-II works for strengthening of Raising-I for further 5th	(-)1.67	-	-	-	-	(-)1.67



		2014-15	2015-16	2016-17	2017-18	2018-19	Total
	raising of Lagoon-I of Stage-I.						
2	Cost adjustment against allowed work of Spreading of earth cover over dry ash to control fugitive ash emission at Stage-I dyke.		-				0.00
3	Decapitalization against ESP R&M	-	(-)5.82	-	-	-	(-)5.82
4	De-capitalization of Spares: Part of Capital Cost	(-)47.49	(-)20.54	(-)109.57	(-)1,635.39	(-)475.90	(-)2,288.89
<b>5</b>	<b>Sub-Total</b>	<b>(-)49.16</b>	<b>(-)26.36</b>	<b>(-)109.57</b>	<b>(-)1,635.39</b>	<b>(-)475.90</b>	<b>(-)2,296.37</b>
<b>D</b>	Discharge of liability	160.20	255.39	226.85	161.93	256.75	1,061.12
<b>E</b>	Exclusions not allowed	(-)508.83	(-)554.39	-	(-)78.72	(-)1,142.89	(-)2,284.83
<b>F</b>	<b>Assumed Deletion</b>	(-)100.59	(-)9.87	0.00	0.00	(-)3056.38	(-)3166.84
<b>F</b>	<b>Total additional capitalization allowed</b>	<b>531.46</b>	<b>1296.43</b>	<b>2568.23</b>	<b>1292.65</b>	<b>6464.51</b>	<b>12,153.29</b>
<b>G</b>	<b>Reimbursement</b>						
1	Scheme of power supply within 5 km radius	0.65	1.53	-	-	-	2.18
2	Payment of additional compensation and Balance interest on enhanced compensation for land as per court orders	0.27	0.95	-	-	-	1.21
<b>3</b>	<b>Sub Total</b>	<b>0.92</b>	<b>2.47</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.39</b>

### Capital cost allowed for the period 2014-19

75. Based on above, the capital cost allowed for the period 2014-19 is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	258028.71	258560.17	259856.60	262424.83	263717.49
Add: Additional capital expenditure	531.46	1296.43	2568.23	1292.65	6464.51
<b>Closing capital cost</b>	<b>258560.17</b>	<b>259856.60</b>	<b>262424.83</b>	<b>263717.49</b>	<b>270182.00</b>
Average capital cost	258294.44	259208.38	261140.72	263071.16	266949.74

### Debt-Equity Ratio

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

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

*Provided that: i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*

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

*iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.*



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

*(2) The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*

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

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

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

77. The gross normative loan and equity amounting to Rs.130447.48 lakh and Rs.127581.23 lakh, respectively, as on 1.4.2014, as considered in an order dated 27.10.2016 in Petition No. 41/RP/2016, has been considered as the gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved above has been allocated to debt and equity in the ratio of 70:30. Further, for the assets de-capitalised during the period 2014-19, the debt-equity ratio of 50:50 has been considered, as these assets were originally allocated to debt and equity, in the ratio of 50:50, in the respective tariff orders. Accordingly, the details of the debt-equity ratio in respect to the generating station as on 1.4.2014 and as on 31.3.2019, are as under:

<i>(Rs. in lakh)</i>								
	<b>Capital cost as on 1.4.2014</b>	<b>(%)</b>	<b>Additional capital expenditure</b>	<b>(%)</b>	<b>De-capitalization</b>	<b>(%)</b>	<b>Total cost as on 31.3.2019</b>	<b>(%)</b>
Debt	130447.48	50.56%	13930.93	70.00%	(-)3874.02	50.00%	140504.39	52.00%
Equity	127581.23	49.44%	5970.40	30.00%	(-)3874.02	50.00%	129677.61	48.00%



	Capital cost as on 1.4.2014	(%)	Additional capital expenditure	(%)	De-capitalization	(%)	Total cost as on 31.3.2019	(%)
<b>Total</b>	258028.71	100.00%	19901.32	100.00%	(-)7,748.04	100.00%	270182.00	100.00%

### **Return on Equity**

78. Regulation 24 of the 2014 Tariff Regulation provides as under:

*“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*

*(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*

*Provided that:*

- i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:*
- ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:*
- iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:*
- iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:*
- v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:*
- vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometre.”*

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

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

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

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





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

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

80. The Petitioner has claimed tariff considering the rate of Return on Equity (ROE) of 19.6106% in 2014-15, 19.7056% in 2015-18 and 19.7575% in 2018-19. The Petitioner has arrived at these rates after grossing up of the base rate of ROE of 15.50% with a MAT rate of 20.961% in 2014-15, 21.342% in 2015-18, and 21.5488% in 2018-19. However, after rectifying the rounding off errors, the rate of ROE to be considered for the purpose of tariff works out to 19.610% for 2014-15, 19.705% for 2015-18, and 19.758% for 2018-19. Accordingly, ROE has been worked out as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	127581.23	127608.95	127879.76	128628.31	128673.29
Add: Addition of Equity due to additional capital expenditure	308.95	489.50	735.29	853.45	3264.88
Less: Decrease due to de-capitalisation during the year / period	329.29	295.31	54.79	857.05	2337.58
Add: Increase due to discharges during the year / period	48.06	76.61	68.06	48.58	77.03
<b>Normative Equity – Closing</b>	<b>127608.95</b>	<b>127879.76</b>	<b>128628.31</b>	<b>128673.29</b>	<b>129677.61</b>
Average Normative Equity	127595.09	127744.35	128254.04	128650.80	129175.45
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.610%	19.705%	19.705%	19.705%	19.758%
<b>Return on Equity (Pre-tax) - (annualised)</b>	<b>25021.40</b>	<b>25172.03</b>	<b>25272.46</b>	<b>25350.64</b>	<b>25522.49</b>

### Interest on loan

81. 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 Decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-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 capitalised:*

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

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

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

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

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

*(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”*

82. The Petitioner has not claimed Interest on loan, and hence, the same is not considered.

### **Depreciation**

83. 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-capitalisation 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-capitalised asset during its useful services.”*

84. The cumulative depreciation amounting to Rs. 174615.65 lakh, as considered in order dated 27.10.2016 in Petition No.41/RP/2016, has been considered as on



1.4.2014. The value of freehold land included in the average capital cost has been adjusted while calculating the depreciable value for the purpose of tariff. Since the used life of the generating station as on 1.4.2014 exceeds the 12 years from the effective station COD, the depreciation for the period 2014-19 is calculated by spreading over the remaining depreciable value over the balance useful life for the respective years. Further, the proportionate adjustment has been made to the cumulative depreciation on account of de-capitalisation of assets considered during the respective years of the period 2014-19. Accordingly, depreciation has been computed as follows:

**(Rs. in lakh)**

	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Average capital cost (A)	<b>258294.44</b>	<b>259208.38</b>	<b>261140.72</b>	<b>263071.16</b>	<b>266949.74</b>
Value of freehold land included above (B)	2831.54	2831.54	2831.54	2831.54	2831.54
Aggregated depreciable Value [C = (A-B) x 90%]	229916.61	230739.16	232478.26	234215.66	237706.38
Remaining depreciable value at the beginning of the year (D = C - 'K' of previous year)	55300.96	49721.33	44815.63	39164.02	36312.38
Balance useful life at the beginning of the year (E)	7.99	6.99	5.99	4.99	3.99
Weighted average rate of depreciation (F)	NA	NA	NA	NA	NA
<b>Depreciation during the year (G = D/E)</b>	<b>6921.27</b>	<b>7113.21</b>	<b>7481.74</b>	<b>7848.50</b>	<b>9100.85</b>
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment (H = G + 'K' of previous year)	181536.92	188131.03	195144.37	202900.14	210494.85
Cumulative depreciation adjustment on account of de-capitalisation (I)	519.09	468.41	92.73	1501.79	4207.65
Cumulative depreciation adjustment on account of liability discharge (J)				(-) 4.35	
<b>Cumulative depreciation, at the end of the year (K = H - I + J)</b>	<b>181017.83</b>	<b>187662.63</b>	<b>195051.64</b>	<b>201394.00</b>	<b>206287.20</b>

### **Compensation Allowance**

85. Regulation 17 of the 2014 Tariff Regulations provides as under:

*“17. Compensation Allowance: (1) In case of coal-based or lignite-fired thermal generating station or a unit thereof a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations and in such an event revision of the capital*



cost shall not be allowed on account of compensation allowance, but the compensation allowance shall be allowed to be recovered separately.

(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of the useful life.”

<b>Years of operation</b>	<b>Compensation Allowance (Rs. lakh/MW/year)</b>
0-10	Nil
11-15	0.20
16-20	0.50
21-25	1.00

86. The Petitioner has claimed compensation allowance as under:

<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
500	500	500	750	1000

87. The Respondent, GRIDCO, has submitted that in terms of the above regulation, the Petitioner shall be directed to furnish the item-wise details of the expenditure incurred or utilized from the compensation allowance for truing-up purposes. In response, the Petitioner has submitted that these allowances are provided on a normative basis, and further, many items have not been claimed under additional capitalization.

88. The matter has been considered. Since the claim of the Petitioner is in terms of Regulation 17 of the 2014 Tariff Regulations, the same is allowed.

### **O&M Expenses**

89. The O&M expenses claimed by the Petitioner are as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	16000.00	17010.00	18080.00	19220.00	20430.00
<b>O&amp;M expenses under Regulation 29(2) of the 2014 Tariff Regulations</b>					
- Water Charges	2000.34	2005.82	1770.85	1928.33	2100.34
- Capital Spares consumed	601.99	342.79	257.72	1958.85	618.56
<b>Sub Total O&amp;M Expenses</b>	<b>18602.33</b>	<b>19358.61</b>	<b>20108.57</b>	<b>23107.18</b>	<b>23148.89</b>
Impact of pay revision	0.00	19.15	1429.98	1885.96	2440.17
Impact of GST				195.58	249.62
<b>Total O&amp;M Expenses</b>	<b>18602.33</b>	<b>19377.76</b>	<b>21538.55</b>	<b>25188.72</b>	<b>25838.68</b>



90. As the normative O&M expenses claimed by the Petitioner are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations, the same is allowed.

### **Water Charges**

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

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

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

92. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon the type of plant, type of cooling water system, etc., subject to prudence check. The Petitioner has claimed water charges based on the actual water consumption of the generating station as detailed below:

<i>(Rs. in lakh)</i>						
	<b>Units</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Type of cooling tower	-	IDCT				
Type of cooling water system	-	Open Cycle				
Water Allocation / Contracted	TMC	3.78	3.79	3.35	3.31	3.31
Actual water drawl	TMC	2.85	2.67	2.64	2.81	2.90
Rate of water charges	Rs. /m <sup>3</sup>	5.6	5.6	5.6	6.16	6.72
Total water charges paid (for whole generating station)	Rs. lakh	6001.02	6017.46	5312.55	5784.99	6301.01
<b>Water charges paid for Stage-I claimed in Petition</b>	Rs. lakh	<b>2000.34</b>	<b>2005.82</b>	<b>1770.85</b>	<b>1928.33</b>	<b>2100.34</b>

93. It is noticed that based on the above information and actual generation, the Commission vide its order dated 29.2.2023 in Petition No. 392/GT/2020 had determined water charges for Talcher STPS- Stages-I & II. Accordingly, the details of the water charges allowed for the generating station are as follows:

	<b>Units</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Actual water consumption	TMC	2.85	2.67	2.64	2.81	2.90
Rate of water charges	Rs./ m <sup>3</sup>	5.6	5.6	5.6	6.16	6.72
Total water charges allowed for Stage-I & II	Rs. In lakh	4,527.00	4,235.57	4,183.72	4,897.53	5,513.00
Generation Stage-I	MU	6921.98	7252.22	7011.26	7045.39	6449.85
Generation Stage - II	MU	15296.35	15229.8	14361.34	14446.13	13403.08
<b>Water charges allowed for Stage I</b>	<b>Rs. In lakh</b>	<b>1410.36</b>	<b>1366.31</b>	<b>1372.46</b>	<b>1605.52</b>	<b>1791.07</b>



Water charges allowed for Stage II	Rs. In lakh	3116.64	2869.27	2811.25	3292.02	3721.93
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### **Capital Spares**

94. The last proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as under:

*“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 modernisation”.*

95. In terms of the above proviso, the capital spares consumed are admissible separately at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares duly auditor-certified and claimed by the Petitioner for the period 2014-19 are as under:

<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
601.99	342.79	257.72	1958.85	618.56

96. The Respondent, GRIDCO, has submitted that though the Petitioner has submitted the details of the year-wise capital spares consumed, it has failed to substantiate that the same has not been funded from the compensation allowance, and has also not booked such expenses as additional capitalisation or as part of the Repair and Maintenance expenses and consumption of stores and spares. In response, the Petitioner has clarified that these have not been claimed under either compensation allowance or through additional capitalization or R&M. The Petitioner, in compliance with the directions of Commission vide ROP of the hearing dated 6.2.2024, has submitted the auditor certified year-wise, item-wise cost and quantity of the capital spares.

97. We have examined the list of capital spares furnished by the Petitioner. Though the year-wise total amount claimed is the same, there are certain differences between





the auditor-certified list submitted with the original petition and the information submitted subsequently, i.e. name of the one item were modified, the cost of many items was changed, etc., However, the Petitioner has not furnished any reasons for such a variation. Accordingly, the minimum of two costs available for each has been considered. It was also noticed that the list of capital spares consumption claimed by the Petitioner comprises two categories, i.e., (i) spares that form part of the capital cost of the project and (ii) spares that do not form part of the capital cost of the project. In respect of capital spares which form part of the capital cost of the project, the Petitioner has been recovering tariff since their procurement and, therefore, the same cannot be allowed as part of the additional O&M expenses. Accordingly, only those capital spares which do not form part of the capital cost of the project are being considered. 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 if a similar piece of critical equipment fails or must be rebuilt. However, it is noted that the list of spares claimed includes various items as well as services such as overhauling, testing, inspection, commissioning, checking, preventive maintenance work permit, etc, and further certain items named as 'damaged', 'Electronic components & cards are not usable', 'ST-1 220 kV SYD bus Transfer Bay', 'Blade failure' etc., In addition, it is also noted that certain items claimed were overlapping with additional capitalization claimed; however, the Petitioner has not furnished any justification for such claim over and above the additional capitalization claimed. Keeping in view the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the list of items that qualify the criteria but not overlap with other claims, and the value of each capital spare exceeding Rs.1.00 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, since the original value of capital spares taken out of service is neither available nor has been furnished by the Petitioner for the 2014-19 tariff period, we are of the view that the salvage value of the capital spares being replaced is required to be deducted from the net total value of capital spares considered during the period 2014-19. In view of the above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the period 2014-19. Accordingly, the year-wise capital spares claimed and allowed are as follows:

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Capital Spares claimed	601.99	342.79	257.72	1958.85	618.56
Capital Spares considered (min of two submissions)	601.99	342.79	257.68	1,958.79	616.99
Part of capital Cost	47.49	20.54	109.57	1,635.39	475.90
Not part of Capital cost	554.50	322.25	148.11	322.99	141.10
Qualified capital spares (Exclusive of services, inconsistencies and over lapping's)	554.50	206.34	122.21	141.36	141.10
Net total value of capital spares considered	532.88	163.99	118.84	139.27	123.65
Less: Salvage value @ 10%	53.29	16.40	11.88	13.93	12.36
<b>Net capital spares allowed</b>	<b>479.59</b>	<b>147.59</b>	<b>106.95</b>	<b>125.34</b>	<b>111.28</b>

### **Additional O&M Expenses on account of GST**

98. The Petitioner has claimed the additional O&M expenses of Rs. 195.58 lakh in 2017-18 and Rs. 249.62 lakh in 2018-19 on account of the payment of GST. The Respondents, GRIDCO, BSPHCL, and TANGEDCO, have submitted that the Petitioner has not furnished any supporting documents to substantiate the claims, including the auditor certificate and the services taxable under GST. In response, the Petitioner, vide additional submission dated 13.7.2021, has submitted the services considered under GST, along with the details of the computation and the auditor certificate for the GST claimed.





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

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

100. Further, the escalation rates considered in the normative O&M expenses were finalized only after the consideration of the variations during the past five years, which also, takes care of any variation in taxes also. It may be noted that in case of reduction of taxes or duties, the Petitioner is not required to reimburse any taxes in tariff. As such, additional O&M expenses on account of GST are not admissible separately.

#### **Additional O&M Expenses on account of the impact of Wage Revision**

101. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the period 2014-19, had taken note in the Statement of Objects and Reasons (SOR) to the said regulations that any increase in the employee expenses, on account of pay revision shall be considered appropriately, on a case-to-case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed the additional O&M expenses of Rs. 19.15 lakh in 2015-16, Rs. 1429.98 lakh in 2016-17, Rs. 1885.96 lakh in 2017-18 and Rs. 2440.17 lakh in 2018-19, towards the impact of wage revision of employees of CISF and Kendriya Vidyalaya (KV) from 1.1.2016 and the employees of the Petitioner posted in the generating station with effect from 1.1.2017. In this regard, the Petitioner, vide affidavit dated 30.6.2021, has submitted the following:



- (a) *Detailed break-up of the actual O&M expenses booked by the Petitioner for the 2014-19 tariff period for the whole generating station*
- (b) *Detailed break-up of actual O&M expense of the Corporate Centre and its allocation to various generating stations, for the 2014-19 tariff period.*
- (c) *Break-up of claimed wage revision impact on employee cost, expenses on corporate centre and on salaries of CISF & Kendriya Vidyalaya employee of the generating station for the 2014-19 tariff period.*

102. The Respondents TANGEDCO, BSHPCL have submitted that the Petitioner has not provided the statement showing the existing Basic Pay and the revised basic pay in respect of non-executives & workmen, executives, no. of employees, etc. and has prayed for rejection of the claim. The Respondent GRIDCO has submitted that the Petitioner has not furnished any data with regard to steps taken by it to limit the O&M expenses within the specified norms. In addition, it has been pointed out that the Petitioner has claimed the incremental Pay Revision amount over and above the normative O&M expenses instead of the balance amount. In response, the Petitioner has submitted that as the said expenditure is due to the implementation of the 7<sup>th</sup> Pay Commission for CISF and KV employees and the 3<sup>rd</sup> pay revision for PSUs, the same shall be allowed as per section 61 (d) of Electricity Act, 2003

103. We have examined the submissions and the documents available on record. It is noticed that the Petitioner has claimed a total amount of Rs. 5775.26 lakh as an impact of wage revision of employees of CISF and Kendriya Vidyalaya staff from 1.1.2016 and for employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional Performance Related Pay (PRP) / ex-gratia to its employees, consequent upon wage revision. As such, as per the consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for the finalisation of O&M norms for various tariff settings, the additional PRP/ex-gratia on account of wage revision has been excluded



from the claim. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 5040.67 lakh with the following year-wise break up.

	(Rs. in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	-	19.15	1,429.98	1,738.48	1,853.07	5,040.67

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

*“29.26. Some of the generating stations have suggested that the impact of pay revision should be allowed on the basis of actual share of pay revision instead of normative 40% and one generating company suggested that the same should be considered as 60%. In the draft Regulations, the Commission had provided for a normative percentage of employee cost to total O&M expenses for different type of generating stations with an intention to provide a ceiling limit so that it does not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission would however, like to review the same considering the macro economics involved as these norms are also applicable for private generating stations. In order to ensure that such increase in employee expenses on account of pay revision in case of central generating stations and private generating stations are considered appropriately, the Commission is of the view that it shall be examined on case to case basis, balancing the interest of generating stations and consumers.*

*33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted. The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement.”*



105. The methodology indicated in the SOR quoted above suggests a comparison of the normative O&M expenses with the actual O&M expenses on a year-to-year basis. However, in this respect, the following facts need consideration:

- (a) The norms are framed based on the averaging of the actual O&M expense of the past five years to capture the year-on-year variations in sub-heads of O&M.
- (b) Certain cyclic expenditures may occur with a gap of one year or two years, and as such, adopting a longer duration i.e., five years for framing of norms, also captures such expenditure which is not incurred on year to year basis;
- (c) When generating companies find that their actual expenditure has gone beyond the normative O&M expenses in a particular year put departmental restrictions and try to bring the expenditure for the next year below the norms.

106. In consideration of the above facts, to ascertain that the O&M expense norms provided under the 2014 Tariff Regulations are inadequate/insufficient to cover all justifiable O&M expenses, we find it appropriate to compare the normative O&M expenses with the actual O&M expenses for a longer duration, i.e., four years from 2015 – 16 to 2018 – 19, so as to capture the variation in the sub-heads. In this regard, it is noted that the Petitioner has furnished the detailed breakup of the actual O&M expenses incurred during the period 2014-19 for combined stages, i.e., Stage-I and II TSTPS. It is noticed that the total O&M expenses incurred for the generating station are more than that of the normative O&M expenses recovered during the period 2015-19. As such, in terms of SOR to the 2014 Tariff Regulations, the approach followed for arriving at the allowable impact of pay revision is given in the subsequent paragraphs

107. The first step is to compare the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like-to-like comparison, the components of O&M expenses like productivity linked incentive, ex-gratia, PRP, leave encashment, expenditure on VRS, water charges, entertainment, demurrage charges, filing fee, loss of provisions, prior period expenses, community development



expenses, ash utilisation expenses, RLDC fee & charges, temporary works written off, CENPEEP expenses, donation and others (without breakup/details) which were not considered while framing the O&M expense norms for the period 2014-19, have been excluded from the yearly actual O&M expenses. Similar adjustments have been made for Corporate Expenses. Having done so, if the normative O&M expenses for the period 2015-19 are higher than the actual O&M expenses (normalized) for the said period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the said period is not admissible / allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are lesser than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under-recovery or wage revision impact (excluding PRP and Ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

108. The details of actual O&M expenses as furnished by the Petitioner and the wage revision impact (excluding PRP and ex-gratia) for TSTPS (Stage-I&II- 3000 MW) during 2014 – 19 are as under:

<i>(Rs. in lakh)</i>		
Year	Actual O&M expenses excluding water charges & capital spares for whole generating station	Wage revision impact claimed for the generating station i.e., Talcher Stage-I (1000 MW)
2014-15	54563.09	0.00
2015-16	79836.05	19.15
2016-17	54528.29	1429.98
2017-18	67602.60	1885.96
2018-19	71308.96	2440.17
	<b>Total</b>	<b>5775.26</b>

109. As a first step, the expenditure against sub-heads of O&M expenses, as indicated above, have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalized) for the combined stages of the generating



station (Stage I and II of 3000 MW). Accordingly, the comparison of the normative O&M expenses versus the actual O&M expenses (normalised) along with the wage revision impact claimed by the Petitioner for the generating station, i.e., Talcher STPS, Stage-I & II (3000 MW) for the period 2015-19 is as under:

	<i>(Rs. in lakh)</i>				
	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) for the combined stages of the generating station (Stage-I to II for 3000 MW) – (a)	46,010.98	51,953.03	60298.11	63121.97	221,383.09
Actual O&M expenses (normalized) for the generating station i.e., Talcher TPS, Stage-I (1000 MW) pro-rated based on capacity – (b)	15,336.99	17,317.68	20,099.37	21,040.66	73,794.70
Normative O&M expenses for Talcher TPS, Stage-I as per Regulation 29(1) of the 2014 Tariff Regulations – (c)	17,010.00	18,080.00	19,220.00	20,430.00	74,740.00
Under/(Excess) recovery for the generating station (d)=(b)-(c)	-1,673.01	-762.32	879.37	610.66	-945.30
Wage revision impact claimed (excluding PRP/ex-gratia)	19.15	1,429.98	1,738.48	1853.07	5,040.67

110. Considering the above, it is observed that during the period 2015-19, the normative O&M expenses were in excess of the actual O&M expenses (normalized), and the excess recovery was Rs. 945.30 lakh. As such, in terms of methodology described above, the wage revision impact claimed by Petitioner is not allowed for this generating station.

#### **Additional O&M Expenses on account of Fly Ash transportation charges**

111. The Petitioner has claimed the additional O&M expenses of Rs. 356.94 lakh in 2018-19 towards Ash transportation charges. In justification of the same, the Petitioner has submitted that the MOEF &CC notification dated 25.1.2016 issued under the statutory provisions of the Environment (Protection) Act 1986 provides for bearing the transportation cost of fly ash generated at power stations. The Petitioner has submitted that Petition No.172/MP/2016 was filed before the Commission seeking the reimbursement of the additional expenditure for fly ash transportation directly from the



beneficiaries, as the same was a statutory expense. Subsequently, the Petitioner vide additional submissions dated 4.6.2021 has submitted that the Commission vide order dated 5.11.2018 in Petition No. 172/MP/2016, directed as follows:

*“31. Accordingly, we in exercise of the regulatory power hold that the actual additional expenditure incurred by the Petitioner towards transportation of ash in terms of the MOEFCC Notification is admissible under “Change in Law” as additional O&M expenses. However, the admissibility of the claims is subject to prudence check of the following conditions on case to case basis for each station:*

*a) Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash.*

*b) Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors.*

*c) Details of the Revenue generated from sale of fly ash/ fly ash products and the expenditure incurred towards Ash utilisation up to 25.1.2016 and from 25.1.2016 to till date, separately.*

*d) Revenue generated from fly Ash sales maintained in a separate account as per the MoEF notification.*

*32. The Petitioner is granted liberty to approach the Commission at the time of revision of tariff of the generating stations based on trueing –up exercise for the period 2014-19 in terms of Regulation 8 of the 2014 Tariff Regulations along with all details / information, duly certified by auditor.”*

112. The Respondents, TANGEDCO, BSPHCL and GRIDCO, have submitted the following:

(a) The Petitioner has also not furnished the details as sought to ensure that the transportation contract has been awarded following a transparent competitive bidding procedure (if the same has not been awarded at scheduled rates of the State of Odisha). Therefore, the claim for the ash transportation cost is liable to be rejected.

(b) The Petitioner has not shared details of the revenue generated from sale of fly ash/ fly ash products and the expenditure incurred towards Ash utilisation up to 25.1.2016 and from 25.1.2016 to till date, separately.

113. The Petitioner has also submitted that to enhance the ash utilisation, it has also signed an MoU with NHAI for the transportation of ash. It has stated that though the Petitioner has acted in a prudent manner and has taken all possible steps for selling fly ash from the project, despite all efforts, the sale of fly ash has not been possible due to a demand-supply mismatch. The Petitioner has pointed out that the Auditor Certificate has been furnished in the rejoinder filed to the reply of the Respondent.

Accordingly, the Petitioner has submitted that it has incurred Rs. 1070.82 lakh in 2018





-19 for Stages-I & II of the generating station and has apportioned them, based on the installed capacity, and has claimed the expenses for the generating station, as per the annual audited records. The details of the reimbursement of additional expenditure towards fly ash transportation w.e.f. 25.1.2016 onwards has been claimed as follows:

	<i>(Rs. in lakh)</i>			
	<b>2015-16 (25.1.2016 to 31.3.2016)</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Expenditure towards fly ash transportation (a)	-	-	-	356.94
Revenue earned from sale of Fly Ash (b)	-	-	-	-
Net Additional O&M expenses claimed (b-a)	-	-	-	356.94

114. The Commission had directed the Petitioner to submit the end-user certificates for ash utilization expenses claimed during the period 2014-19, and in response, the Petitioner has submitted the following;

- a) Auditor certificate in respect of the net expenditure of Rs 1070.82 lakh charged to P&L has been submitted. Expenditure incurred for the entire station has been allocated, based on the equated capacity of the stages. This is just a method of allocation of the total expenditure. However, irrespective of the method of allocation (based on equated capacity/generation), total expenditure claimed for the station will remain same.
- b) Ash from Talcher Super Thermal Power Station, Kaniha was transported for the projects of NHAI in compliance to the MoEF&CC Notification dated 3.11.2009 and its amendment dated 25.1.2016. Further, small quantum of ash was also transported to ash brick manufacturer and the rate for transportation of fly ash was as per the Schedule of Rates (SoR) of Odisha. As directed, the end user certificate has been submitted.
- c) An amount of Rs 1473.26 lakh has been incurred by Ash users for Talcher Super Thermal Power station in 2018-19 towards Ash Transportation. However, the net cost of Rs. 1070.82 lakh has been recognized as Ash Transportation expenses, based on the bills received from end users. Auditor certificate has been submitted based on the same and the balance amount will be claimed as and when the claim is made by the end user.

115. The matter has been examined. We note that the claim of the Petitioner had been examined at length in Commission's order dated 29.3.2023 in Petition No. 392/GT/2020 (truing-up of tariff of Talcher STPS, Stage-2 for 2014-19), wherein, based on the documents available on record and considering the generation of stages





I and II, out of the claim of Rs. 1070.80 lakh for Stage I & II, the Commission had determined an amount of Rs. 1061.27 lakh and the same was apportioned to these stages as follows:

<i>(Rs. in lakh)</i>		
<b>Total for Stages I &amp; II</b>	<b>Stage I</b>	<b>Stage II</b>
1061.27	344.79	716.48

116. Admittedly, the 2014 Tariff Regulations do not contain any provision for allowing the fly ash transportation charges. Accordingly, we, in the exercise of the regulatory powers, allow the above expenditure of Rs 344.79 lakh towards fly ash transportation for the generating station in 2018 -19 in six equal monthly instalments, starting from May 2024, without any interest, keeping in view the interest of the beneficiaries. The Petitioner may recover these allowed charges in terms of Regulation 8(13) from the beneficiaries as per their ex -bus energy scheduled to the ex-bus energy produced in the respective year. Considering the fact that the reimbursement of the fly ash transportation expenses is being allowed based on the MOEF&CC notification, these expenses are not made part of the O&M expenses and the consequent annual fixed charges being determined in this order under the 2014 Tariff Regulations.

117. Accordingly, the total O&M expenses allowed to the generating station are as under:

<i>(Rs. In lakh)</i>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations <b>(a)</b>	16000.00	17010.00	18080.00	19220.00	20430.00
<b>Normative O&amp;M expenses allowed under Regulation 29(1)(a) of the 2014 Tariff Regulations (b)</b>	<b>16000.00</b>	<b>17010.00</b>	<b>18080.00</b>	<b>19220.00</b>	<b>20430.00</b>
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations <b>(c)</b>	2000.34	2005.82	1770.85	1928.33	2100.34
<b>Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)</b>	<b>1410.36</b>	<b>1366.31</b>	<b>1372.46</b>	<b>1605.52</b>	<b>1791.07</b>



	2014-15	2015-16	2016-17	2017-18	2018-19
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulation (e)	601.99	342.79	257.72	1958.85	618.56
<b>Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)</b>	<b>479.59</b>	<b>147.59</b>	<b>106.94</b>	<b>125.34</b>	<b>111.28</b>
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	18602.33	19358.61	20108.57	23107.18	23148.89
<b>Total O&amp;M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)</b>	<b>17889.95</b>	<b>18523.90</b>	<b>19559.41</b>	<b>20950.86</b>	<b>22332.35</b>
<b>Additional O &amp; M expenses</b>					
Impact of Wage revision claimed	0.00	19.15	1429.98	1885.96	2440.17
<b>Impact of Wage revision allowed</b>	-	-	-	-	-
Impact of GST claimed	-	-	-	195.58	249.62
<b>Impact of GST allowed</b>	-	-	-	-	-
Fly Ash Transportation Expenditure claimed	-	-	-	-	356.94
<b>Fly Ash Transportation Expenditure allowed</b>	-	-	-	-	<b>344.79</b>

### **Operational Norms**

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

#### **(a) Normative Annual Plant Availability Factor (NAPAF)**

119. The Petitioner has claimed the Normative Annual Plant Availability Factor (NAPAF) of 83 % for the period 2014-17 and 85 % for the period 2017-19. As the claim of the Petitioner is in line with Regulation 36(A)(a) of the 2014 Tariff Regulations, the same is allowed.

#### **(b) Gross Station Heat Rate (kCal/kWh)**

120. The Petitioner has claimed a Gross Station Heat Rate (GSHR) of 2375 kCal/kWh. As the claim is in terms of Regulation 36(C)(a)(i) of the 2014 Tariff Regulations, the same is allowed.

#### **(c) Specific Oil Consumption**



121. The Petitioner has claimed the secondary fuel oil consumption of 0.50 ml/kWh. As the claim is in terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the same is allowed.

**(d) Auxiliary Power Consumption**

122. The Petitioner has claimed Auxiliary Power Consumption for 5.75%. Regulation 36(E)(a) of the 2014 Tariff Regulations provides for Auxiliary Power Consumption as 5.25%, and the first proviso to the above regulation provides for an additional 0.5% towards auxiliaries. As per the Form 2, the plant is having Induced Draft Cooling Towers, and hence the claim of the Petitioner is in order and allowed.

**Interest on Working Capital**

123. Regulation 28 of the 2014 Tariff Regulations provides as under:

*“28. Interest on Working Capital:*

*(1) The working capital shall cover:*

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

*(i) Cost of coal or lignite and limestone towards stock if applicable for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*

*(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*

*(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor and in case of use of more than one secondary fuel oil cost of fuel oil stock for the main secondary fuel oil;*

*(iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;*

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

*(vi) Operation and maintenance expenses for one month.*

*(b) .....*

*(c) .....*

*(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.*

*(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.

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

124. The Petitioner has claimed Interest on Working capital as follows:

	(Rs.in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards Stock	5539.59	5539.59	5539.59	5673.07	5673.07
Cost of Coal towards Generation	11079.18	11079.18	11079.18	11346.15	11346.15
Cost of Secondary fuel oil	289.68	290.47	289.68	296.66	296.66
O&M expenses	1550.19	1614.81	1794.88	2099.06	2182.97
Maintenance Spares	3720.47	3875.55	4307.71	5037.74	5239.12
Receivables	32422.01	32695.14	33096.54	34446.68	34957.31
Total Working Capital	54601.12	55094.74	56107.57	58899.36	59695.31
Interest Rate for Working Capital (H)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest on Working Capital</b>	<b>7371.15</b>	<b>7437.79</b>	<b>7574.52</b>	<b>7951.41</b>	<b>8058.87</b>

### **Fuel Cost and Energy Charges in Working Capital**

125. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of the cost of fuel, as part of Interest on Working Capital (IWC), is to be based on the landed price and GCV of fuel as per actuals for the three months preceding the first month for which the tariff is to be determined. Regulation 30(6)(a) of the 2014 Tariff Regulations provides as under:

“30. Computation and Payment of Capacity Charge and Energy Charge for Thermal Generating Stations:

(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:

(a) For coal based and lignite fired stations

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.



*LPL = Weighted average landed price of limestone in Rupees per kg.*

*LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)*

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

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

126. Therefore, in terms of the above regulation, the GCV on an ‘as received’ basis is to be considered for the determination of the Energy Charges in working capital.

Further, Regulation 30(7) of the 2014 Tariff Regulations provides as under:

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

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

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

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

*“58. In view of the above discussion the issues referred by the Hon’ble High Court of Delhi are decided as under:*

*“(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station in terms of Regulation 30(6) of the 2014 Tariff regulations.*



*(b)The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”*

128. The Petitioner had filed Review Petition No.11/RP/2016 against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. The Petitioner has also filed Petition No. 244/MP/2016 before this Commission inter alia, praying for the removal of difficulties in view of the issues faced by it in implementing the Commission's orders dated 25.1.2016 and 30.6.2016 regarding sampling of coal from loaded wagon top for measurement of GCV. The Commission, by its order dated 19.9.2018, disposed of the preliminary objections of the respondents therein and held that the Petition is maintainable. Against this order, some of the respondents have filed an appeal before the APTEL in Appeal Nos. 291/2018 (GRIDCO v NTPC & Ors), and the same is pending adjudication.

129. In Petition No. 281/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the period 2014-19, the Petitioner had furnished GCV of coal on 'as billed' but not 'as received' basis for the preceding 3 months, i.e., for January 2014, February 2014 and March 2014 that were required for determination of Interest on Working Capital (IWC). Therefore, the Commission vide its order dated 29.7.2016 in Petition No. 281/GT/2014 had considered GCV of coal on an 'as billed' basis and provisionally allowed adjustment for total moisture while allowing the cost of coal towards generation & stock and two months energy charges in the working capital.



130. The Petitioner, in this petition, has furnished Form-15 for the preceding three months of the tariff determination, i.e., January 2014 to March 2014, as per details under:

	January 2014		February 2014		March 2014	
GCV Billed	3821	5964	3778	5962	3763	5583
Weighted Average GCV Billed	4174		4036		3917	
Weighted average GCV Fired	3210		3207		2966	

131. The Petitioner has further submitted that CEA, vide its letter dated 17.10.2017, has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on “as received” and on “as fired” basis. In line with this, the Petitioner has considered a margin of 100 kCal/kg on average GCV received of coal for the period from October 2016 to March 2019, i.e., 2875.83 kCal/kg for computation of working capital of the generating station. In addition, the landed price of coal, GCV, and landed price of Secondary fuel oil for the preceding three months, i.e., January 2014 to March 2014, is Rs. 2249.40 / MT, 9510 kCal/kg, and Rs. 47809.56 / kL, respectively, and SHR, Auxiliary power consumption, NAPAF etc., as per regulations and claimed the Energy Charge Rate (ECR) ex-bus of 199.241 paise / kWh and fuel components of working capital as under:

**(Rs. in lakh)**

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days)	5539.59	5539.59	5539.59	5673.07	5673.07
Cost of Coal towards Generation (30 days)	11079.18	11079.18	11079.18	11346.15	11346.15
Cost of Secondary fuel oil (2 months)	289.68	290.47	289.68	296.66	296.66

132. The Petitioner, *suo motu*, vide additional submission dated 30.6.2021, has furnished the details of the GCV on an ‘as received’ basis, which was sought by the Commission in other similar matters for the months of January 2014 to March 2014, which was uploaded on the website of the Petitioner and shared with the beneficiaries. The Petitioner has further submitted that though the computation of energy charges





moved from an 'as fired' basis to an 'as received' basis with effect from 1.4.2014 in terms of Regulation 30(6) of the 2014 Tariff Regulations, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV should be as per 'actuals' for the three months preceding the first month for which tariff is to be determined. It has further submitted that for the period 2014-19, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014) by virtue of it falling under the 2009 Tariff Regulations shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the tariff regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on working capital ought to be computed in terms of Regulation 28(2) of the 2014 Tariff Regulations on actual GCV, i.e., 'as fired' GCV. The Petitioner has submitted that without prejudice to the above submissions, it has furnished the details of GCV on an 'as received' basis for the months of January 2014 to March 2014 in compliance with the directions of the Commission in other similar matters as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Weighted Average GCV of coal received (TM basis) (kcal/kg) $D=A*(1-B\%)/(1-C\%)$
1	January 2014	3794	12.96	6.88	3546
2	February 2014	3665	13.16	6.86	3417
3	March 2014	3423	14.77	7.85	3166
	<b>Average</b>				<b>3376</b>

133. The Respondent, BSPHCL, has submitted that the Petitioner has not provided the basis and rationale for considering 100 kCal/ kg of loss in GCV of coal between 'as received' and 'as fired.' The Respondent has further submitted that as the loss of GCV depends on Petitioner's efficacy in handling and storage of the coal, i.e., moisture





in coal sample taken from wagon top, coal storage, handling, etc, consideration of loss of 100 kCal/ kg is not as per regulations, the same may be rejected. It has further submitted that the regulations do not contain any provision for other charges, and also, as per Regulation 30(7), the Petitioner has to provide a copy of bills, details of parameters, price of fuel, etc. As the Petitioner has neither provided any supporting documents for the claim nor any statutory auditor certificate, the claim may be rejected. The Respondent, GRIDCO has made similar submissions as made by BSPHCL. In addition, the Respondent has stated the following:

- (a) The Petitioner has claimed GCV as fired basis and the Commission had allowed the GCV as billed with a moisture correction. Subsequently, in line with directions of Hon'ble Delhi High Court dated 25.1.2016 in Petition No. 283/GT/2014, the Commission held that (i) sample for measurement of GCV of coal on 'as received' basis shall be collected from loaded wagons at the generating station but not after the crusher set up inside the generating station (ii) the Petitioner could not submit GCV determined at the un-loading point of the Generating Station and has claimed cost for fuel components in working capital based on "as fired GCV" basis (iii) In absence of 'as received' GCV at the unloading point, the Commission had arrived at the same by adjusting the moisture to the GCV billed. (iv) The Petitioner has neither objected nor challenged this moisture correction formula considered in this order. (vii) Even though the heat energy of coal per kg varies from the point of mining to the point of receiving at the generating station, the total heat content of coal consignment at the receiving end would be the same mining end i.e. the 'GCV as received' shall be same as 'GCV as billed' barring minor transit loss.
- (b) Further, the IS: 1350 (Part I) and (Part II) specify for determination of GCV as received after adjusting moisture to the GCV on an EM basis, whereas the GCV on an EM basis is the same at mine end as well as receiving end. The 'GCV as received' on Total Moisture at the mine end needs to be adopted for the calculation of energy charge billing. Thus, the formulae adopted by the Commission are fully justified. GRIDCO has filed an Appeal No. 238 of 2017 before APTEL challenging the order dated 25.1.2016 with the prayer to consider 'as received GCV' at mine end for billing.
- (c) CEA vide its letter dated 20.3.2018, has recommended GCV compensation of 70 -80 kCal/kg due to improper sampling, 15 kCal/kg due to storage for 30 days and 2-3 kCal/kg towards handling inside the plant. Further, the MoM dated 21.9.2017 among CIMFR, CPRI and CEA, acknowledges that due to time constraints, practically it is not possible to draw samples (as per IS) up to the bottom of the wagon, so samples are drawn from the top and wagon top sample generally doesn't represent whole lot i.e. improper sampling. The same was acknowledged by CIL in a meeting held on 11.10.2017. As this improper sampling is providing an advantage to MCL, the Petitioner shall ensure proper



sampling as per IS, as it is party to joint sampling as FSA as well as guidelines for 3rd party sampling. Further, as per notification of the Coal Controller, mechanical sampling/auto sampling is preferable and as per a new provision in modification arising out of migration from UHV-based grading to GCV system, "Samples of Coal shall be collected jointly either manually or through any suitable mechanical sampling arrangement including Augur Sampling method during each of the shifts and at each of the Delivery points for determining the quality of Coal." Thus, this controllable loss of 70-80 kCal/ kg cannot be passed on. In terms of 2009 Tariff Regulations, the Petitioner shall determine 'GCV as Received' from 1.1.2013, and in terms of 2014 Tariff regulations shall submit as received data for January, 2014 to March, 2014, however, provided it is from October, 2016 to March, 2019.

(d) Considering this, the formulae adopted by Commission in determining 'GCV as received' after adjusting moisture to 'GCV as billed' shall prevail and the Petitioner may be directed to furnish the billed GCV along with the Total Moisture and Equilibrated Moisture / Inherent Moisture from April, 2014 to September, 2014 with revised ECR calculations and energy bills thereof, as per the above formulae.

134. In response to the above, the Petitioner has submitted that it has already provided the monthly 'GCV as received' basis from October 2018 to December 2018 and that the margin claimed of 100 kCal / kg on 'GCV as received' is as per CEA's recommendations. It has also submitted 'the GCV on a received' basis for the months of January 2014 to March 2014 and has uploaded the same on the website and shared it with beneficiaries, including the Respondents. The Petitioner has further submitted that the Commission, in its order dated 11.7.2018 in Petition No. 93/MP/2017, held that all such costs, including stone picking charges, loco driver's salary, sampling charges, etc., which lead to the landed cost of fuel should be recovered from beneficiaries and thus, there is no deviation from the provisions of the 2014 Tariff Regulations and merely, there is no separate entry as "Other Charges," it does not mean that the claim is against the provisions of the 2014 Tariff Regulations. With regard to the contention of Respondent GRIDCO relating to Appeal No. 238 of APTEL challenging the Commission's order dated 25.1.2016, the Petitioner has submitted that the said appeal will be answered on its own merit. The Petitioner has also stated that it has complied with the third amendment to the 2009 Tariff Regulations and had



indicated the 'as received GCV' data on the website on a regular basis. However, 'as fired GCV' was followed during the period 2009-14, and the amendment does emphasize the computation of interest on working capital in the period 1.4.2014 to 31.3.2019, on an 'as received GCV' basis. Further, reference GCV to January 2014 to March 2014 is being 'as fired,' interest on working capital can be brought down by considering 'GCV as received' at the stage of truing up.

135. The Respondent, GRIDCO, in its written submissions dated 6.1.2023, has pointed out that as per Form-15, the Petitioner has clarified that it does not have the infrastructure for measuring the representative figures of 'as received' GCV for January 2014 to March 2014. It has stated that the difference of up to 500 kCal/ kg and an average of 415 kCal/ kg has been claimed between the 'Weighted average GCV of Coal as billed' furnished in Form 15 and the 'Weighted average GCV of coal as received (on EM basis)' vide additional submissions dated 30.6.2021. It has been added that as per the Commission's order dated 29.7.2016 in Petition No. 281/GT/2014 and this petition, the Petitioner had GCV and Moisture for both the Colliery end and Firing Stage of the generating station from January 2014 to March 2014, but not 'as received' and had it from October 2016 to March 2019. Thus, the data 'GCV as received' furnished by the Petitioner from January 2014 to March 2014 is irrelevant. Accordingly, the Respondent has submitted that the Petitioner may be directed to furnish the Total Moisture & Equilibrated Moisture data at the Colliery end, as determined jointly by the Petitioner and Coal Supplier for the months of January 2014 to March 2014, failing which 'as billed GCV' may be considered, has been done provisionally in an order dated 3.3.2017.

136. The submissions have been considered. It is observed that the Petitioner in Form-13F, has considered the average GCV of coal on an "as received basis," i.e.,



from wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the period 2014-19. In addition to the average GCV, it has also considered a margin of 100 kCal/kg for the computation of the working capital of the generating station.

137. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of the cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, the calculation of IWC for the period 2014-19 is to be based on such values for the months of January 2014, February 2014, and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the period 2014-19 in Petition No. 281/GT/2014. In the present petition, the Petitioner has proposed that instead of GCV received for January 2014, February 2014, and March 2014, the Commission should consider the average values for the months of October 2016 to March 2019 since the measurement of 'as received' GCV has been done in accordance with directions of the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014. In our view, the proposal of the Petitioner to consider the retrospective application of 30 months (October 2016 to March 2019) an average of 'as received' GCV data in place of 'as received' GCV of the preceding three months (January 2014 to March 2014) is not acceptable, keeping in view that the average GCV for 30 months may not be commensurate to the landed cost of coal for the preceding three months to be considered for calculating IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations and that due to efflux of time (gap of 30 month), the quality of coal extracted from the linked mines would have undergone considerable changes. Also, the consideration of loss of GCV of 100 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.



138. Though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as above, it has requested to consider GCV 'as fired' basis for January 2014 to March 2014, which is during the period 2009-14. However, Regulation 18(2), read with Regulation 21(6) of the 2009 Tariff Regulations was applicable, which mandates that the generating company shall measure GCV on an 'as fired' basis (and not on an 'as received' basis). Further, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on an 'as received' basis were also required to be provided by the Petitioner along with bills of the respective month. Also, bills detailing the parameters of GCV and the price of fuel were to be displayed by the Petitioner on its website on a monthly basis.

139. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the period 2014-19 was to ensure that the GCV losses which might occur within the generating station after the receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is a negligible difference between 'as received' GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of



2014 Tariff Regulations. In case the submission of the Petitioner that 'as fired' is to be considered 'at actuals' for the preceding three months for the purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the period 2014-19. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. Therefore, the submission of Petitioner to consider GCV as fired from January 2014 to March 2014 is not acceptable. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on an 'as received' basis, we consider the fuel component and energy charges for two months based on 'as received' GCV of the preceding three months (January 2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

140. Accordingly, the information furnished by the Petitioner is examined and it is noticed that the Petitioner has availed coal from domestic sources as well as imported a certain quantity furnished the blending ratio, and also submitted Form 15 inclusive of the opening stock. As the plant is a pithead plant, in terms of relevant regulations, the transit loss for coal sourced from domestically as well as imported is restricted to 0.2%. As regards the landed cost of coal, the Petitioner has submitted the month-wise landed cost of coal as Rs. 2478.36 / MT, Rs. 2401.52 / MT, and Rs. 1905.18 / MT for January 2014, February 2014, and March 2014, respectively, and has claimed the weighted average price of coal as Rs. 2249.40 / MT. It is pertinent to mention that this generating station has common facilities with Stage-II and also the Petitioner has furnished Form 15 and Form 13 F for the said months in Petition No. 392/GT/2020 and also at the time of determination of tariff for the period 2014-19 i.e. Petition No.



281/GT/2014 as well as Petition No. 293/GT/2014. Accordingly, the information furnished by the Petitioner for January 2014, February 2014, and March 2014 in these petitions have been examined and noted that the coal quantity, charges paid to the coal company, transportation charges, blending ratio, source-wise and month-wise landed cost of coal, GCV billed, GCV fired, etc. were the same. However, the month-wise landed cost, and the weighted average cost thereof claimed were at variance, and the Petitioner has not furnished any reasons for the same. A summary of the landed cost of coal claimed in the various petitions for January 2014 to March 2014 with regard to the common coal handling facilities of Talcher STPS are as follows:

(Rs. / MT)						
Petition no.	Stage	Tariff	Jan 2014	Feb 2014	Mar 2014	Weighted Average
281/GT/2014	Stage I	Initial tariff	1946.61	1989.05	1958.56	1964.74
293/GT/2014	Stage II		1946.61	1989.05	1958.56	1964.74
387/GT/2020	Stage I	Truing up	2478.36	2401.52	1905.18	2249.40
392/GT/2020	Stage II		1946.61	1989.05	1958.56	2249.40

141. Regulation 30(6) of the 2014 Tariff Regulations provides for the computation of formulae for ECR, which is a function Landed Price of Primary Fuel (LPPF), and the same is mentioned as the weighted average landed price of primary fuel in Rupees per kg, during the month and in case of blending of fuel from different sources, the same shall be arrived in proportion to blending ratio and the same account for the price of coal is arrived for the coal actually required for generation but not the excess quantity of coal procured at higher price. However, it appears that the Petitioner has computed the month-wise landed cost of coal in terms of the above in Petition nos. 281/GT/2014, 283/GT/2014, and 392/GT/2014, but not so in Petition No. 387/GT/2020 (this petition), i.e., without consideration of blending ratio. As regards the weighted average cost of coal claimed for the three months in Petition No. 392/GT/2020 and 387/GT/2020, it appears that the Petitioner has considered the simple average but not the weighted average month-wise landed cost of coal arrived, after accounting for the





blending ratio. Further, the quantity of coal for stock as well as coal required for generation are being determined from the parameters of coal considered for ECR, the same parameters shall prevail for determining cost for coal stock and coal for generation. Accordingly, the month-wise landed cost of coal, along with the blending ratio, was determined and the weighted average landed cost thereof was arrived. In line with the above, the GCV and landed cost of coal and oil are determined as follows:

	Allowed
Weighted Average GCV of Oil (kCal/ltr)	9510.31
Weighted Average cost of Oil (Rs./kl)	47809.56
Weighted Average GCV of Coal (kCal/kWh)	3376.44
Weighted Average cost of Coal (Rs./Tonne)	1961.73

142. Accordingly, the cost for fuel components in working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days) generation corresponding to NAPAF	4114.84	4114.84	4114.84	4213.99	4213.99
Cost of Coal towards Generation (30 days) generation corresponding to NAPAF	8229.67	8229.67	8229.67	8427.98	8427.98
Cost of Secondary fuel oil 2 months generation corresponding to NAPAF	289.68	290.47	289.68	296.66	296.66

### **Energy Charge Rate (ECR) for calculating working capital**

143. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of Energy Charge for thermal generating stations:

*“(6): Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*

*(b) For coal based and lignite fired stations*

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$

*Where,*

*AUX = Normative auxiliary energy consumption in percentage.*

*CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*

*CVSF = Calorific value of secondary fuel, in kCal per ml.*

*ECR = Energy charge rate, in Rupees per kWh sent out.*

*GHR = Gross station heat rate, in kCal per kWh.*



LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.

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

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

144. The Petitioner has claimed the Energy Charge Rate (ECR) of 199.241 Paise/kWh for the generating station. The allowable ECR, based on the operational norms as specified in Regulation 36(A) of the 2014 Tariff Regulations and on the weighted average of ‘as received’ GCV of coal, GCV of oil, and landed cost of coal and oil, worked out as under:

	<b>Unit</b>	<b>2014-19</b>
<b>Capacity</b>	<b>MW</b>	1000
Gross Station Heat Rate	kCal/kWh	2375
Aux. Energy Consumption	%	5.75
Rate of Energy Charge ex-bus	Rs. /kWh	1.486

145. The Energy Charges for two months for computation of working capital based on ECR of Rs. 1.486/kWh have been worked out as under:

*(Rs. in lakh)*

<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
16971.93	17018.42	16971.93	17380.89	17380.89

### **Maintenance Spares for Working Capital**

146. The Petitioner in Form-13B has claimed the maintenance spares in the working capital as under:

*(Rs. in lakh)*

<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
3720.47	3875.55	4307.71	5037.74	5239.12

147. 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. Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and capital spares) allowed are as under:

*(Rs. in lakh)*

<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
3577.99	3704.78	3911.88	4190.17	4466.47



### **Receivables for Working Capital**

148. Receivables equivalent to two months of capacity charges and energy charges have been worked out duly considering the mode of operation of the generating station on secondary fuel, and the same is allowed as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Variable Charges - for two months (A)	16971.93	17018.42	16971.93	17380.89	17380.89
Fixed Charges - for two months (B)	9380.12	9551.99	9813.91	10195.14	10783.94
<b>Total (C = A+B)</b>	<b>26352.04</b>	<b>26570.41</b>	<b>26785.84</b>	<b>27576.03</b>	<b>28164.83</b>

### **Working Capital for O&M Expenses (1 month)**

149. The O&M expenses for 1 month, as claimed by the Petitioner in Form-13B are as under:

<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1550.19	1614.81	1794.88	2099.06	2182.97

150. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for the O&M expenses for one month for a coal-based generating station as a part of the working capital. Accordingly, the one-month O&M expenses are allowed as under:

<i>(Rs. in lakh)</i>				
<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
1490.83	1543.66	1629.95	1745.91	1861.03

### **Rate of interest on working capital**

151. In terms of Regulation 28(3) of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10% + 350 bps). Accordingly, interest on working capital has been computed as under:

	<i>(Rs. in lakh)</i>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Working capital for Cost of Coal towards Stock (15 days generation corresponding to NAPAF) (A)	4114.84	4114.84	4114.84	4213.99	4213.99
Working capital for Cost of Coal towards Generation (30 days generation corresponding to NAPAF) (B)	8229.67	8229.67	8229.67	8427.98	8427.98
Working capital for Cost of Secondary fuel oil (2 months generation corresponding to NAPAF) (C)	289.68	290.47	289.68	296.66	296.66



	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Maintenance Spares (20% of O&M expenses) (D)	3577.99	3704.78	3911.88	4190.17	4466.47
Working capital for Receivables (2 months of sale of electricity at NAPAF) (E)	26352.04	26570.41	26785.84	27576.03	28164.83
Working capital for O&M expenses (1 month of O&M expenses) (F)	1490.83	1543.66	1629.95	1745.91	1861.03
<b>Total Working Capital (G = A+B+C+D+E+F)</b>	<b>44055.05</b>	<b>44453.83</b>	<b>44961.86</b>	<b>46450.73</b>	<b>47430.95</b>
Interest Rate for Working Capital (H)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest on Working Capital (I = G x H)</b>	<b>5947.43</b>	<b>6001.27</b>	<b>6069.85</b>	<b>6270.85</b>	<b>6403.18</b>

152. The calculation of the interest on working capital and energy charge calculated as above is subject to the final decision of the Commission in Petition No. 244/MP/2016.

### **Annual Fixed Charges for the period 2014-19**

153. Based on the above, the annual fixed charges approved for the generating station for the period 2014-19, are summarised as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6921.27	7113.21	7481.74	7848.50	9100.85
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	25021.40	25172.03	25272.46	25350.64	25522.49
O&M Expenses	17889.95	18523.90	19559.41	20950.86	22332.35
Interest on Working Capital	5947.43	6001.27	6069.85	6270.85	6403.18
Compensation Allowance	500.00	500.00	500.00	750.00	1000.00
<b>Total Annual Fixed Charges</b>	<b>56280.05</b>	<b>57310.40</b>	<b>58883.46</b>	<b>61170.85</b>	<b>64358.86</b>
5km scheme (approved as reimbursement)	0.65	1.53	-	-	-
Payment of additional compensation and balance interest on enhanced compensation for land as per Court orders	0.27	0.95	-	-	-
Impact of Pay revision	-	-	-	-	-
Impact of GST	-	-	-	-	-
Fly Ash Transportation expenses	0.00	0.00	0.00	0.00	344.79
<b>Total other than annual fixed charges</b>	<b>0.92</b>	<b>2.48</b>	<b>0.00</b>	<b>0.00</b>	<b>344.79</b>

154. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 29.7.2016 in Petition No. 281/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 of the 2014 Tariff Regulations.



155. Petition No. 387/GT/2020 is disposed of in terms of the above.

**Sd/-**  
**(Pravas Kumar Singh)**  
**Member**

**Sd/-**  
**(Arun Goyal)**  
**Member**

**Sd/-**  
**(Jishnu Barua)**  
**Chairperson**

