

has not been allowed.

### **C. Initial spares**

30. The Petitioner has claimed total initial spares for Rs.11444.16 lakh (Rs.2845.44 lakh in 2014-15, Rs.2012.21 lakh in 2015-16 and Rs.6586.52 lakh in 2016-17) under Regulation 14(1)(i) and Regulation 14(1)(iii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the capitalized spares pertain to the original scope of work and are within the cut-off date of the generating station.

31. It is also observed that the Petitioner has claimed initial spares for Rs.1573.85 lakh in 2017-18 i.e. after the cut-off date. In justification for the same, the Petitioner has submitted that these spares pertain to initial spares allowable at 2.5% of the capital cost as on cut-off date, as per the 2009 Tariff Regulations. The Petitioner has also submitted that the order for initial spares was placed on time and as per the lead time, the same was expected to be delivered within the cut-off date. It has however submitted that the delivery of some of the spares got delayed on account of various reasons like implementation of GST and its consequences, high booking order with the respective vendor etc. and as the implementation of GST required various systemic and procedural changes/ modifications in taxation system, initial problems were faced by suppliers to understand and adopt this system. It has also stated that initial hiccups and resolution of teething problems after initial execution, took almost 3 to 4 months after its implementation. The Petitioner has further submitted that above changes in taxation system and implementation of GST impacted the placement of orders of capital spares to various vendors. It has stated that due to implementation of new tax structure, the purchase orders of the supplies and other works had to be modified/amended in line with new guidelines. The Petitioner has stated that the input tax credit could only be confirmed by parties, after filing of the returns in September, 2017. As per new tax



structure, the tax was to be levied as per the date of generation of invoice. Accordingly, it was necessary that for supplies to be made after 1.7. 2017, the procedures of GST, including registration with GST number (GSTN) etc. is required to be followed. In view of the same, the orders placed by the Petitioner also got stuck up, seeking such changes as per GST, though the Petitioner had taken all-out effort to absorb the delay by placing its personnel at manufacturer's workplace to assist in the procedural requirements. The Petitioner has stated that despite the same, the supply of certain capital spares got delayed and spilled over the cut-off date. It has also submitted that the delivery of capital spares is non-COD work, which was although expedited on every front, got delayed due to reasons beyond the control of the Petitioner. The Petitioner has submitted that the delayed capitalization, after the cut-off date, has protected the beneficiaries from front loading of the same in tariff. Accordingly, the Petitioner has prayed that the Commission in exercise of its power under Regulation-54 read with Regulation 3 of the 2014 Tariff Regulations, extend the cut-off date of the generating station, on account of the 'change in law' event due to introduction of GST and allow the expenditure claimed under Regulation 14(1)(ii) of the 2014 Tariff Regulations, which pertains to the original scope of work.

32. The Respondent, CSPDCL has submitted that the claim of Petitioner under capital spares pertain to initial spares which was allowed upto to 2.5% and is permissible up to cut-off date under the 2009 Tariff Regulations and therefore the same may be disallowed.

33. The Commission vide ROP of the hearing dated 18.11.2021 had directed the Petitioner to submit the details of initial spares and its computation. In response, the Petitioner vide affidavit dated 16.1.2022 has submitted as under:



Sl. No.	Description	Period of Claim	Amount Claimed/Allowed (Rs lakh)	Remarks
1	Initial Spares	As on COD of the Station/ up to 31.03.2014	2623.48	Allowed in order dated 21.09.15 in Petition No 69/GT/ 2013 (and also mentioned in order dated 1.2.2017 in Petition No 328/GT/ 2014).
2		2014-15	2845.44	Claimed upto the cut-off date in Form 9A of the Petition.
3		2015-16	2012.21	
4		2016-17	6586.52	
5		2017-18	1573.85	Claimed with detailed justification under Form 9A of the petition and in Paras 22 and 23 below.
6		2018-19	0.00	
		<b>Total</b>	<b>15641.50</b>	

34. The Petitioner has further submitted that the Commission vide its order dated 8.1.2022 in Petition No 408/GT/2020 had allowed the claim for initial spares beyond the cut-off date on account of the fact that the procurement of spares was initiated even before the cut-off date, as in the present case of the Petitioner's generating station. Therefore, the Petitioner has prayed that the Initial capital spares capitalised in 2017-18, after the scheduled cut-off date (31.03.2017) may be allowed.

35. The matter has been considered. It is observed that the Petitioner has claimed initial spares for Rs.11444.16 lakh (on cash basis) during the period 2014-17. However, while doing so, the Petitioner has not considered the discharge of liabilities for Rs.888.04 lakh, during the period 2014-17, towards initial spares. Accordingly, the total initial spares, on cash basis, for the 2014-17 period, works out to Rs.12332.20 lakh (Rs.11444.16 lakh + Rs.888.04 lakh). Further, considering the balance undischarged liabilities of Rs.241.72 lakh as on 31.3.2017 and initial spares of Rs.2623.57 lakh, allowed as on COD, the total value of admitted initial spares, works out to Rs.15197.49 lakh (Rs.12332.20 lakh + Rs.241.72 lakh + Rs.2623.57 lakh). As per Regulation 14(1)(iii) of the 2014 Tariff Regulations, the procurement of initial spares up to the cut-off date are allowed up to



the ceiling limit. The capital cost (excluding initial spares), as on cut-off date (31.3.2017), is Rs.643640.25 lakh. Considering the ceiling limit of 2.5% as per the 2009 Tariff Regulations, the ceiling limit for initial spares works out to Rs.16503.60 lakh. Accordingly, the Petitioner's claim towards initial spares for Rs.11444.16 lakh (on cash basis) during the period 2014-17, is allowed. Further, considering the ceiling of 2.5%, the balance allowable initial spares as on 31.3.2017 works out to Rs.1306.11 lakh (Rs.16503.60 lakh – Rs.15197.49 lakh).

36. As regards the Petitioner's additional claim for Rs.1573.85 lakh, on cash basis, towards procurement of initial spares in 2017-18 i.e. after the cut-off date, the Commission in its order dated 8.1.2022 in Petition No 408/GT/2020 (pertaining to Maithon Right Bank Thermal Power Project) has allowed capital spares in relaxation of Regulation 14(1)(iii) of the 2014 Tariff Regulations. The relevant extract from order dated 8.1.2022 in Petition No 408/GT/2020 is as under:

*"48...It is evident from the submissions of the Petitioner, that the procurement of spares was initiated even before the cut-off date (31.3.2015), but spares were received only during 2015-16. Since the claim of the Petitioner for additional capitalisation of Rs.282.72 lakh in 2015-16 is towards initial spares for 'Coal Handling System' after the cut-off date, the same is allowed in relaxation of Regulation 14(1)(3) of 2014 Tariff Regulations..."*

37. Accordingly, in line with the said decision, the Commission considers the Petitioner's claim of Rs.1573.85 lakh on cash basis towards procurement of initial spares in 2017-18. However, considering the balance allowable ceiling of Rs.1306.11 lakh towards initial spares as on 31.3.2017, the initial spares of Rs.1306.11 lakh is allowed for the year 2017-18.

#### **D. Decapitalization**

38. The Petitioner has claimed de-capitalization of Rs.950.42 lakh during the period 2014-19 (i.e., Rs.106.58 lakh in 2014-15, Rs.150.71 lakh in 2015-16, Rs.276.93 lakh in 2017-18, Rs.114.20 lakh in 2017-18 and Rs.301.99 lakh in 2018-19) under Regulation



14(4) of the 2014 Tariff Regulations.

39. The Respondent, CSPDCL has submitted that there is no justification given by Petitioner for claiming de-capitalization of Rs.950.42 lakh as it has achieved COD only in 31.3.2014. The Respondent MPPMCL has submitted that the furniture and fixtures, other office equipment, plant and machinery, buildings, EDP, WP machine and Satcom equipment which were put to use on 30.03.2014 are being claimed to be de-capitalised in just a short span which is highly objectionable and hence these items should be included in exclusions and not allowed to be capitalized again. It has further submitted that the claims of such minor nature should be covered under routine O & M expenses and must not form part of the capital expenditure.

40. The matter has been considered. Regulation 14(4) of the 2014 Tariff Regulations, provides that original value of de-capitalised assets shall be deducted from the capital cost allowed to the generating station. Accordingly, the de-capitalization of these assets, as claimed by the Petitioner, is allowed.

#### **E. Un-discharged liabilities & Discharge of liabilities**

41. The discharge of un-discharge liabilities 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>
13620.35	13620.35	9021.68	1351.71	741.95

42. Out of the discharge of liabilities claimed by the Petitioner, discharges amounting to Rs.184.32 lakh in 2018-19, correspond to assets disallowed for the purpose of tariff and are accordingly not being considered for the purpose of tariff.

43. Accordingly, discharge of liabilities of Rs.13620.35 lakh in 2014-15, Rs.10489.58 lakh in 2015-16, Rs.9021.68 lakh in 2016-17, Rs.1351.71 lakh in 2017-18 and Rs.557.63 lakh in 2018-19 is allowed for the purpose of tariff.



44. After prudence check, the discharge of liabilities allowed as part of the additional capital expenditure, corresponding to allowed assets, are as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening undischarged liabilities	35534.49	25343.15	19707.76	12235.35	10850.87
B	Liabilities corresponding to additional capital expenditure allowed during the year	3429.02	4862.25	2243.27	0.83	0.00
C	Discharges of liabilities during the year	13620.35	10489.58	9021.68	1351.71	557.63
D	Reversal of liabilities during the year	0.00	8.06	694.01	33.59	205.21
E	Closing un-discharged liabilities (A+B-C-D)	25343.15	19707.76	*12235.35	10850.87	10088.03

\*Including undischarged liability of Rs 241.72 lakh pertaining to initial spares.

45. The additional capital expenditure claimed by the Petitioner for the 2014-19 tariff period is as follows:

		<i>(Rs in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Closing Gross Block as per audited books	642314.23	681915.07	1024910.01*	1333443.35*	1374650.54*
	Less: Opening Gross Block as per audited books	591641.07	642314.23	625815.91*	1024910.01*	1333443.35*
	Additional capital expenditure as per audited books	50673.16	39600.84	399094.10	308533.34	41207.19
	Less: Additional capital expenditure pertaining to other Stages	418.36	11238.06	381536.86	306075.13	26468.93
	Additional capital expenditure for the generating station	50254.80	28362.78	17557.24	2458.21	14738.26
	Less: IND AS Adjustment	0.00	0.00	315.30	85.36	2138.22
	Additional capital expenditure as per IGAAP for the generating station	50254.80	28362.78	17241.94	2372.85	12600.04
	Less: Exclusions	7178.65	8892.14	(-)2852.36	(-)1009.46	10512.67
	Additional capital expenditure as per IGAAP for the generating station	43076.15	19470.64	20094.30	3382.31	2087.37
	Less: Undischarged liabilities included above	3429.02	4862.25	2243.27	432.80	591.63
	Net Additional Capital Expenditure Claimed (on Cash basis)	39647.13	14608.39	17851.03	2949.51	1495.74
	Add: Discharges of liabilities	13620.35	10489.58	9021.68	1351.71	741.95
	<b>Net additional capital expenditure claimed including discharges for the generating station (on cash basis)</b>	<b>53267.49</b>	<b>25097.97</b>	<b>26872.71</b>	<b>4301.22</b>	<b>2237.68</b>

\*As per IND-AS

## F. Exclusions

46. The summary of exclusions from books of accounts under different heads for the purpose of tariff are shown as follows:

<i>(Rs. in lakh)</i>						
	<b>Head of Work / Equipment</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
(a)	Loan ERV	6203.77	8898.47	(-)2152.63	(-)716.55	6374.32
(b)	Inter Unit Transfer	974.88	1.73	(-)5.72	9.31	(-)19.98
(c)	Reversal of Liability	0.00	(-)8.06	(-)694.01	(-)33.59	(-)205.21
(d)	Capital Overhaul	0.00	0.00	0.00	0.00	0.00
(e)	Capitalization of MBOA items	0.00	0.00	0.00	16.32	26.09
(f)	Capital Spares	0.00	0.00	0.00	0.00	4763.45
(g)	Decapitalization of Spares (Not Part of Capital Cost)	0.00	0.00	0.00	(-)175.26	(-)395.43
(h)	Decapitalization of MBOAs (Part of capital cost)	0.00	0.00	0.00	(-)109.69	(-)30.25
(i)	Decapitalization of MBOAs (Not Part of capital cost)	0.00	0.00	0.00	0.00	(-)0.32
	<b>Total Exclusions claimed</b>	<b>7178.65</b>	<b>8892.14</b>	<b>(-)2852.36</b>	<b>(-)1009.46</b>	<b>10512.67</b>

### a) Loan ERV

47. The Petitioner has sought the exclusion of loan ERV 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>
6203.77	8898.47	(-)2152.63	(-)716.55	6374.32

48. The Petitioner has submitted that it is required to bill loan ERV directly on the beneficiaries as per the 2014 Tariff Regulations. Hence, the exclusion of the said amount under this head is in order and is allowed.

### b) Inter-unit transfer

49. The Petitioner has claimed inter-unit transfer 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>
974.88	1.73	(-)5.72	9.31	(-)19.98

50. In justification of the same, the Petitioner has submitted that the Commission has not been considering the inter-unit transfers as part of tariff and hence, kept under

exclusions. We are of the considered view that both positive and negative entries arising out of inter unit transfers of temporary nature shall be ignored for the purpose of tariff. In view of above, the exclusion of inter-unit transfer as claimed by the Petitioner is allowed.

**c) Reversal of Liability**

51. The Petitioner has claimed exclusion of reversal of liabilities as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
0.00	(-)8.06	(-)694.01	(-)33.59	(-)205.21

52. In justification for the same, the Petitioner has submitted that as tariff is determined on cash basis, the liability reversal has been kept under exclusion. In view of this, the exclusion of the said amounts is allowed.

**d) Capital Overhaul (Ind-AS Adjustment)**

53. With regard to the expenditure on capital overhaul (Ind-AS adjustment), the reconciliation statement, as submitted by the Petitioner, indicates an expenditure of Rs.3.01 lakh in 2017-18 and Rs.2097.53 lakh in 2018-19, towards overhauling, with corresponding negative of same amount as IND-AS adjustment. As such, after adjustment, the net claim against reclassification of asset class reduces to zero as per IGAPP. Considering the fact that the expenditure is an accounting adjustment leading to zero expenditure, the same is in order and does not impact the claim made by the Petitioner and hence allowed.

**e) Capitalization of Miscellaneous Bought out Assets (MBOA) Items**

54. The Petitioner has capitalised MBOA items during the 2014-19 tariff period as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
0.00	0.00	0.00	16.32	26.09





55. The Petitioner has submitted that MBOA items capitalised after the cut-off date are not allowed as per the 2014 Tariff Regulations and, therefore, the same has been kept under exclusion. The exclusion of the above-said amounts are found to be in order and is, therefore, allowed.

**f) Capitalization of Spares**

56. The Petitioner has procured capital spares amounting Rs.4763.45 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as capital spares capitalised after the cut-off date are not allowed in terms of the 2014 Tariff Regulations, the same has been kept under exclusions. Since capitalization of spares over and above initial spares, procured after the cut-off date of the generating station, are not allowed for the purpose of tariff, as they form part of O&M expenses, as and when consumed, the Petitioner has excluded the said amount. In view of the above, the exclusion of the said amounts, under this head, is in order and is allowed.

**g) De-capitalization of spares not forming part of capital cost**

57. The Petitioner has excluded decapitalized capital spares amounting to (-) Rs.175.26 lakh in 2017-18 and (-) Rs.395.43 lakh in 2018-19 for the purpose of tariff. In justification of the same, the Petitioner has submitted that the capitalization of these capital spares do not pertain to the part of capital cost and hence claimed under exclusion. It is observed that the Petitioner has only given the generalized justification, but not provided the details of items, against which the decapitalization has been claimed. It is also noticed from Form 9Bi for 2017-18, that the items against which decapitalization of (-) Rs.175.26 lakh is claimed, were put to use in 2017-18. In case of decapitalization of capital spares amounting to (-) Rs.395.43 lakh in 2018-19 the Petitioner has not submitted any date of the same being put to use. The COD of the generating station is 30.3.2014 and the cut-off date is 31.3.2017, The exclusion claimed in 2017-18 and



2018-19 are within 4 to 5 years of the COD of generating station. The Petitioner has capitalized the spares upto 31st March, 2017 and has not provided supporting documents indicating procurement and claims under exclusions of these spares after cutoff date upto 2018-19. Therefore, the Petitioner has not established as to how the decapitalization do not form part of the capital cost. Hence, the exclusion of decapitalization of the spares amounting to (-) Rs.175.26 lakh in 2017-18 and (-) Rs.395.43 lakh in 2018-19 as claimed by the Petitioner, are not allowed. Accordingly, the decapitalized capital spares amounting to (-) Rs.175.26 lakh in 2017-18 and (-) Rs.395.43 lakh in 2018-19 are to be considered for the purpose of tariff.

***h) De-capitalization of Miscellaneous Bought out Assets (MBOA) forming part of the capital cost***

58. The Petitioner has claimed exclusion of de-capitalised MBOA amounting to (-) Rs.109.69 lakh in 2017-18 and (-) Rs.30.25 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as per the 2014 Tariff Regulations, MBOAs are not allowed in tariff after the cut-off date and therefore, the de-capitalization of the same, have been kept under exclusion. After examining the exclusions sought on de-capitalization of MBOA items, it is noticed that MBOA items on which decapitalization is claimed, were capitalised prior to the cut-off date of the generating station i.e., 31.3.2017. Hence, the decapitalized amount pertains to MBOAs, which were part of the capital cost of the generating station, for the purpose of the tariff. Accordingly, the exclusion of (-) Rs.109.69 lakh in 2017-18 and (-) Rs.30.25 lakh in 2018-19 on account of de-capitalization of MBOA is not allowed.

***i) De-capitalization of Miscellaneous Bought out Assets (MBOA) not forming part of the capital cost***

59. The Petitioner has claimed exclusion of de-capitalised MBOA amounting to (-) Rs.0.32 lakh in 2018-19 for the purpose of tariff. In justification of the same, the



Petitioner has submitted that capitalization of these assets were kept under exclusions and, hence the decapitalization of the same are also kept under exclusion. It is observed that the Petitioner has only given the generalized justification, but has not provided any details of the items against which de-capitalization has been claimed. It is also noticed from Form 9Bi for 2018-19, that the Petitioner has not provided any date of the de-capitalised items being put to use. Therefore, the exclusion of de-capitalization of the MBOA items, as claimed by the Petitioner, are not allowed, as the Petitioner has not been able to establish that the exclusion claimed are for MBOA items, not forming part of the capital cost.

60. Accordingly, the summary of exclusions allowed/ not allowed for the 2014-19 tariff period is as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Exclusions claimed (A)	7178.65	8892.14	(-)2852.36	(-)1009.47	10512.67
Exclusions allowed (B)	7178.65	8892.14	(-)2852.36	(-)724.51	10938.67
Exclusion not Allowed (A-B)	0.00	0.00	0.00	(-)284.96	(-)426.00

61. Based on the above discussions, the additional capital expenditure claimed and allowed for the 2014-19 tariff period is summarized as follows:

<i>(Rs. in lakh)</i>							
Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
<b>A</b>	<b>Admitted</b>						
1	LAND	176.69	37.81	9.04	0.00	0.00	223.54
2	MAIN PLANT CIVIL	5405.96	2653.69	1214.94	0.00	0.00	9274.59
3	SG	6691.87	419.97	0.00	0.00	0.00	7111.84
4	TG	552.93	200.74	0.00	0.00	0.00	753.67
5	STATION C&I	0.00	120.38	0.00	0.00	0.00	120.38
6	CPU	3.06	2.85	0.00	0.00	0.00	5.91
7	INSTRUMENTATION CABLES	(-)2.04	29.34	0.00	0.00	0.00	27.30
8	CHP	1478.51	2.02	0.00	0.00	0.00	1480.53
9	RAILWAY SIDING	856.85	3151.42	5274.41	0.00	0.00	9282.68
10	DM PLANT	0.03	2.26	0.00	0.00	0.00	2.29
11	PT PLANT	35.69	4.36	0.00	0.00	0.00	40.05
12	CW- CIVIL	7.00	62.82	0.00	0.00	0.00	69.82
13	CW- EQUIPMENT	0.00	14.02	0.00	0.00	0.00	14.02
14	COOLING TOWER	159.48	21.59	0.00	0.00	0.00	181.07



Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
15	ASH HANDLING SYSTEM	1105.00	64.41	0.00	0.00	0.00	1169.41
16	ASH DYKE	0.00	0.33	0.00	0.00	0.00	0.33
17	AWRS	0.00	7.13	0.00	0.00	0.00	7.13
18	STATION PIPING	0.00	36.36	0.00	0.00	0.00	36.36
19	AC VENTILATION	160.02	39.06	213.80	0.00	0.00	412.87
20	ELECTRICAL EQUIPMENT PACKAGE	0.00	153.56	0.00	0.00	0.00	153.56
21	LT SWITCH GEAR & BUS DUCT	1261.48	0.00	0.00	0.00	0.00	1261.48
22	M V SWITCH GEAR	0.00	185.23	0.00	0.00	0.00	185.23
23	SWITCH YARD	0.00	46.18	0.00	0.00	0.00	46.18
24	OUT DOOR TRANSFORMER	43.39	0.00	0.00	0.00	0.00	43.39
25	BUS DUCT	53.39	0.00	0.00	0.00	0.00	53.39
26	POWER TRANSFORMERS	(-)12.37	0.00	0.00	0.00	0.00	(-)12.37
27	ROADS	1422.91	599.23	0.00	0.00	0.00	2022.14
28	BOUNDARY WALL	387.22	278.46	0.00	0.00	0.00	665.68
29	TOWN SHIP	6360.69	3901.15	3133.52	0.00	0.00	13395.36
30	SITE LEVELLING & OTHER INFRA	0.00	24.39	0.00	0.00	0.00	24.39
31	CHIMNEY	0.00	74.00	0.00	0.00	0.00	74.00
32	MBOA	806.20	578.77	0.00	0.00	0.00	1384.97
33	ESP	1335.71	0.00	0.00	0.00	0.00	1335.71
34	MGR	2936.53	0.00	0.00	0.00	0.00	2936.53
35	Construction Power	16.53	0.00	0.00	0.00	0.00	16.53
36	Station Lighting	212.19	0.00	0.00	0.00	0.00	212.19
37	Steel Yard	423.80	0.00	0.00	0.00	0.00	423.80
38	Communication	14.94	0.00	0.00	0.00	0.00	14.94
39	Cable Trestle	4970.81	0.00	0.00	0.00	0.00	4970.81
40	T&P	43.24	0.00	0.00	0.00	0.00	43.24
41	Temporary Structure	0.57	0.00	0.00	0.00	0.00	0.57
42	Package ERV	0.00	0.00	0.00	0.00	0.00	0.00
43	Hospital items	0.00	35.38	0.00	0.00	0.00	35.38
44	Contractors' ERV	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Sub Total (A)</b>	<b>36908.27</b>	<b>12746.89</b>	<b>9845.71</b>	<b>0.00</b>	<b>0.00</b>	<b>59500.88</b>
<b>B</b>	<b>New Claims</b>						
1	Ash Dyke	0.00	0.00	0.74	0.00	0.00	0.74
2	Ash Handling System	0.00	0.00	70.82	0.00	0.00	70.82
3	Ash Water Recirculation System	0.00	0.00	46.61	0.00	0.00	46.61
4	Ash related works	0.00	0.00	0.00	7.07	22.64	29.72
5	Chimney	0.00	0.00	119.92	0.00	0.00	119.92
6	Coal Handling Plant	0.00	0.00	72.71	0.00	(-)27.60	45.11
7	CW- CIVIL	0.00	0.00	84.62	0.00	0.00	84.62
8	ELECTRICAL EQUIPMENT PACKAGE	0.00	0.00	236.35	0.00	0.00	236.35
9	Fire detection and Protection System	0.00	0.00	0.39	0.00	0.37	0.75
10	Generator Transformer	0.00	0.00	0.00	0.00	0.00	0.00



Sl. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
11	Pre-Treatment Plant	0.00	0.00	3.09	0.00	0.00	3.09
12	Roads	0.00	0.00	576.21	0.00	0.00	576.21
13	Steam generator Package	0.00	0.00	103.53	0.00	2.88	106.40
14	Station C&I	0.00	0.00	8.80	0.00	(-)1.23	7.58
15	Station Lighting	0.00	0.00	(-)5.89	0.00	0.00	(-)5.89
16	Station Piping	0.00	0.00	22.90	0.00	0.00	22.90
17	T&P	0.00	0.00	(-)0.16	0.00	0.00	(-)0.16
18	Turbine Generator Package	0.00	0.00	355.10	0.00	0.37	355.47
19	Package ERV	0.00	0.00	0.00	0.00	0.00	0.00
20	Switchyard/Transformer/Bus duct/Switchgear/Electrification	0.00	0.00	0.00	144.93	0.00	144.93
21	Lighting Installations and associated works	0.00	0.00	0.00	0.00	0.00	0.00
22	Offsite Civil/Roads	0.00	0.00	0.00	0.00	0.00	0.00
23	Main Plant Civil	0.00	0.00	0.00	0.00	0.00	0.00
24	C&I	0.00	0.00	0.00	153.91	0.00	153.91
25	Water System	0.00	0.00	0.00	0.00	0.00	0.00
26	Railway Siding & associated works	0.00	0.00	0.00	531.72	0.00	531.72
27	SG package	0.00	0.00	0.00	(-)0.04	0.00	(-)0.04
28	Township Civil	0.00	0.00	0.00	(-)0.09	0.00	(-)0.09
29	Land (ROU for Make-up water)	0.00	0.00	0.00	0.00	33.28	33.28
30	Transformers & electrical package	0.00	0.00	0.00	0.00	(-)6.54	(-)6.54
	<b>Sub Total (B)</b>	<b>0.00</b>	<b>0.00</b>	<b>1695.74</b>	<b>837.50</b>	<b>24.16</b>	<b>2557.40</b>
<b>C</b>	<b>Initial Spares</b>	2845.44	2012.21	6586.52	1306.11	0.00	12750.27
<b>D</b>	<b>Decapitalization</b>						
1	Decapitalization of Spares (Part of Capital Cost)	90.10	143.17	214.93	114.20	301.99	864.39
2	Decapitalization of MBOA items (Part of Capital Cost)	16.48	7.54	62.01	0.00	0.00	86.03
	<b>Sub Total (C)</b>	<b>106.58</b>	<b>150.71</b>	<b>276.93</b>	<b>114.20</b>	<b>301.99</b>	<b>950.42</b>
<b>E</b>	<b>Liability Discharge</b>						
	Add. Discharge of Liabilities pertaining to allowed works for prior period	13620.35	10489.58	9021.68	1351.71	557.63	35040.95
	<b>Sub Total (D)</b>	<b>13620.35</b>	<b>10489.58</b>	<b>9021.68</b>	<b>1351.71</b>	<b>557.63</b>	<b>35040.95</b>
<b>F</b>	<b>Total Additional Capitalization claimed</b>	<b>53267.49</b>	<b>25097.97</b>	<b>26872.71</b>	<b>3381.11</b>	<b>279.80</b>	<b>108899.08</b>
G	Exclusion not allowed	0.00	0.00	0.00	(-)284.96	(-)426.00	(-)710.96
<b>H</b>	<b>Net additional capitalization allowed including Exclusions</b>	<b>53267.49</b>	<b>25097.97</b>	<b>26872.71</b>	<b>3096.15</b>	<b>(-)146.19</b>	<b>108188.13</b>



## Capital Cost allowed for the 2014-19 tariff period

62. Accordingly, the capital cost approved for the 2014-19 tariff period is as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	553357.85	606625.34	631723.31	658596.02	661692.17
Add: Net additional capital expenditure allowed	53267.49	25097.97	26872.71	3096.15	(-)146.19
Closing Capital Cost	<b>606625.34</b>	<b>631723.31</b>	<b>658596.02</b>	<b>661692.17</b>	<b>661545.98</b>
Average Capital Cost	579991.59	619174.33	645159.67	660144.10	661619.07

## Debt-Equity Ratio

63. Regulation 19 of the 2014 Tariff Regulations provides as follows:

*“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 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.”*



64. The gross normative loan and equity amounting to Rs. 388857.07 lakh and Rs. 164500.78 lakh, respectively as on 1.4.2014, as considered in Commission's order dated 1.2.2017 in Petition No. 328/GT/2014 has been retained for the purpose of tariff. Further, the additional capital expenditure admitted as above, has been allocated in the debt-equity ratio of 70:30. Accordingly, the debt-equity ratio in respect of the generating station, as on 1.4.2014 and 31.3.2019 allowed is as follows:

<i>(Rs. in lakh)</i>						
	Capital cost as on 1.4.2014		Additional Capital Expenditure for 2014-19		Capital cost as on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt (A)	388857.07	70.27%	75731.69	70.00%	464588.76	70.23%
Equity (B)	164500.78	29.73%	32456.44	30.00%	196957.22	29.77%
<b>Total (A+B)</b>	<b>553357.85</b>	<b>100.00%</b>	<b>108188.13</b>	<b>100.00%</b>	<b>661545.98</b>	<b>100.00%</b>

### **Return on Equity**

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

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

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

*Provided that:*

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





than 50 kilometer.”

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

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

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

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

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

*(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.”*

67. The Petitioner has claimed Return on Equity (ROE) for the 2014-19 tariff period, after grossing up the base rate of return on equity of 15.50% with the effective tax rates (based on MAT rates) for each year as per Regulation 25 of the 2014 Tariff regulations.

68. The Respondent MPPMCL has submitted that the year-wise details of net income from sale of electricity and income from other operations, total profit and net income tax paid during the period 2014-19 may be considered for computing actual income tax paid. It has submitted that the actual income tax rate, as furnished in the statement of accounts shows different picture and therefore, the Petitioner should be directed to submit the detailed information regarding the effective tax rate, on the basis of actual



tax paid, during each financial year. The Respondent has also submitted that the Commission may examine the above-mentioned data to assess actual rate of income tax paid by the Petitioner or allow the grossing up of ROE so that beneficiaries / ultimate consumers are not in an unjustified financial burden. The Respondent MSEDCL has submitted that from the balance sheet statement furnished by the Petitioner, the tax liability of the Petitioner is zero and therefore, the Commission may allow ROE of 15.5% only. The Petitioner in its rejoinder has submitted that the effective tax rate shall be considered on the basis of the actual tax paid in respect of the financial year, in line with the provisions of the relevant Finance Act, by the concerned generating company. The Petitioner has further submitted the following:

- i. The Petitioner being a corporate legal entity and the generating station being one of them, the tax liability to be imposed upon the Generating company is liable to be grossed up as per Regulations 25 of the 2014 Tariff Regulations, as in the present case, actual tax has been paid by the Generating Company.
- ii. The Petitioner is eligible to claim MAT and hence, the grossing up of ROE is done by applicable tax rate/ MAT as in terms of Regulation 25(1) and Regulation 25(2) of the 2014 Tariff Regulations.
- iii. The same have been allowed by in order dated 29.3.2017 in Petition No. 337/GT/2014. While deciding the MAT rate in the Petition, the Commission had arrived on the basis of actual MAT rate applicable for 2014-15, 2015-16 and 2016-17 on provisional basis.

69. ROE has been trued up on the basis of the MAT rate applicable in the respective years and is allowed for the generating station 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>
Normative Equity-Opening (A)	164500.78	180481.03	188010.42	196072.23	197001.08
Addition of Equity due to additional capital expenditure (B)	15980.25	7529.39	8061.81	928.85	(-)43.86
Normative Equity-Closing (C) = (A) + (B)	180481.03	188010.42	196072.23	197001.08	196957.22
Average Normative Equity (D) = (A+C)/2	172490.90	184245.72	192041.32	196536.65	196979.15



	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the year (F)	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (G) = (E)/(1-F)	19.610%	19.705%	19.705%	19.705%	19.758%
<b>Return on Equity (Pre-Tax) annualized (H) = (D)*(G)</b>	<b>33825.47</b>	<b>36305.62</b>	<b>37841.74</b>	<b>38727.55</b>	<b>38919.14</b>

## **Interest on Loan**

70. Regulation 26 of the 2014 Tariff Regulations provides as follows:

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

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

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

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

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



71. The Respondent CSPDCL and Respondent MPPMCL have submitted that the Petitioner has failed to share the benefits on account of refinancing of loans and the cost incurred towards refinancing. The Respondent MPPMCL has submitted that after completion of the 3 years from the date of swapping / refinancing of loan, the actual rate of interest shall be applicable for calculation of interest on loan for rationalizing the cost of electricity and safeguard the interest of consumers.

72. The Petitioner in its rejoinder has submitted that the statement of pre-payment of loan and refinancing have been attached along with Form 13 of the petition, mentioning the loan details of original loan and refinanced loan and the corresponding interest rate savings retained while sharing the refinancing gains with beneficiaries as per the extant CERC tariff regulation. It has also submitted that in terms of Regulation 8(6) read with Regulation 26 (7) of 2014 Tariff Regulations, the benefits of refinancing of loans has to be shared with the beneficiaries in the ratio of 2:1 (Beneficiaries: Generator). It has also submitted that the same has been applied by adjusting the rate of interest of new loans while computing weighted average rate of interest.

73. The matter has been considered. Interest on loan has been worked out as follows:

- (a) Gross normative loan amounting to Rs.388857.07 lakh as considered in order dated 1.2.2017 in Petition No. 328/GT/2014 has been retained as on 1.4.2014.
- (b) Cumulative repayment amounting to Rs. 17557.20 lakh as considered in order dated 1.2.2017 in Petition No. 328/GT/2014 has been retained as on 1.4.2014.
- (c) Accordingly, the net normative opening loan as on 1.4.2014 is Rs. 371299.87 lakh.
- (d) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- (e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Also, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff.



- (f) In line with the provisions of the regulations stated above, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2014, along with subsequent additions during the 2014-19 tariff period, if any, for the generating station. During, the 2014-19 tariff period the Petitioner has refinanced some of the loans like Allahabad Bank-III, Dena Bank-II, UCO-II, Punjab and Sindh Bank-I, LIC-V, ICICI Bank-V, ICICI Bank-VI and IDFC Bank-II with ICICI V, ICICI V, ICICI V, SBI VIII, ICICI VI, Corporation Bank IV and Bond 67, SBI-XII, respectively and the same along with corresponding additions have been considered for the purpose of tariff. In case of loans carrying floating rate of interest, the details of rate of interest, as furnished by the Petitioner, has been considered for the purpose of tariff.
- (g) In terms of the provisions of Regulation 26(7) and Regulation 26(8) of the 2014 Tariff Regulations, the beneficiaries and the Petitioner shall mutually share the net savings on account of refinancing of loan in the ratio of 2:1. In the event of any dispute regarding sharing of net savings on account of refinancing any of the parties may approach the Commission for its resolution. However, the beneficiaries shall not withhold any payment on account of the interest claimed by the generating company during the pendency of such dispute.

74. Interest on loan has been calculated after providing appropriate accounting adjustment for interest capitalised corresponding to the admitted additional capital expenditure allowed as under:

	<b>(Rs. in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross opening loan (A)	388857.07	426144.31	443712.89	462523.79	464691.10
Cumulative repayment of loan upto previous year (B)	17557.20	47387.68	79085.85	111998.11	145593.03
Net Loan Opening (C) = (A) - (B)	371299.87	378756.64	364627.04	350525.68	319098.06
Addition due to additional capital expenditure (D)	37287.24	17568.58	18810.90	2167.31	(-)102.34
Repayment of loan during the period (E)	29833.25	31716.32	32943.03	33658.01	33719.63
Less: Repayment adjustment on account of de-capitalization (F)	2.77	18.14	30.77	63.09	136.31
Net Repayment of during the year (H) = (E) - (F) + (H)	29830.48	31698.18	32912.26	33594.92	33583.33
Net Loan Closing (I) =(C) +(D) - (H)	378756.64	364627.04	350525.68	319098.06	285412.40
Average Loan (J) = (C+I)/2	375028.25	371691.84	357576.36	334811.87	302255.23
Weighted Average Rate of Interest of loan (K)	8.0772%	7.7794%	7.7598%	7.6791%	7.8136%
<b>Interest on Loan (L) = (J)*(K)</b>	<b>30291.92</b>	<b>28915.37</b>	<b>27747.18</b>	<b>25710.38</b>	<b>23617.07</b>
Less: Interest capitalized (M)	0.00	0.00	0.00	37.29	0.27
<b>Net Interest on Loan (N) = (L)-(M)</b>	<b>30291.92</b>	<b>28915.37</b>	<b>27747.18</b>	<b>25673.09</b>	<b>23616.80</b>



## **Depreciation**

75. 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 upto 31.3.2014 from the gross depreciable value of the assets.*

*(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) alongwith 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.”*

76. Cumulative depreciation amounting to Rs. 17557.20 lakh as on 1.4.2014, as considered in order dated 1.2.2017 in Petition No. 328/GT/2014 has been retained for the purpose of tariff. Since as on 1.4.2014, the used life of the generating station is 0.53 years, which is less than 12 years from the effective station COD of 20.9.2013, depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) calculated in terms of Regulation 27 of 2014 Tariff Regulations. The calculation of WAROD is enclosed as Annexure-I to this order. Accordingly, depreciation has been computed as under:

	<b>(Rs. in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Average Capital Cost (A)	579991.59	619174.33	645159.67	660144.10	661619.07
Value of freehold land included in average capital cost (B)	0.00	0.00	0.00	0.00	0.00
Aggregated Depreciable Value (C)= (A-B)*90%	521992.43	557256.89	580643.70	594129.69	595457.17
Remaining aggregate depreciable value at the beginning of the year (D) = (C) - (Cumulative Depreciation (shown at M), at the end of the previous year)	504435.23	509869.22	501557.84	482131.57	449864.13
No. of completed years at the beginning of the year (E)	0.53	1.53	2.53	3.53	4.53
Balance useful life at the beginning of the year (F) = 25 - (E)	24.47	23.47	22.47	21.47	20.47
Weighted Average Rate of Depreciation (WAROD) (G)	5.1437%	5.1224%	5.1062%	5.0986%	5.0965%
Depreciation during the year/ period (H) = (A) * (G)	29833.25	31716.32	32943.03	33658.01	33719.63
Depreciation during the year/ period (annualized) (I) = (H)	29833.25	31716.32	32943.03	33658.01	33719.63
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (J) = (I) + Cumulative Depreciation (shown at M), at the end of the previous year	47390.45	79103.99	112028.88	145656.13	179312.66
Less: Depreciation adjustment on account of de-capitalization (K)	2.77	18.14	30.77	63.09	136.31
Cumulative depreciation at the end of the year (L) = (J) - (K)	47387.68	79085.85	111998.11	145593.03	179176.36





## O&M Expenses

77. The O&M expenses claimed by the Petitioner are as follows:

	<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 in terms of Regulation 29 (1) of the 2014 Tariff Regulations	16000.00	17010.00	18080.00	19220.00	20430.00

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

	<i>(Rs. In lakh/MW)</i>				
<b>Unit Size (MW)</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>500</b>	16.00	17.01	18.08	19.22	20.43

79. Proviso to the Regulation 29 (1) (a) of the 2014 Tariff Regulations states as under:

*“Provided that the above norms shall be multiplied by the following factors for arriving at norms of O&M expenses for additional units in respective sizes for the units whose COD occurs on or after 1.4.2014 in the same station:*

200/210/250 MW	<i>Additional 5th &amp; 6th units</i>	<i>0.90</i>
	<i>Additional 7th &amp; more units</i>	<i>0.85</i>
500 MW above	<i>Additional 3rd &amp; 4th units</i>	<i>0.90</i>
	<i>Additional 5th &amp; above units</i>	<i>0.85</i>

80. The generating station has two units of 500 MW capacity and all these units have achieved COD during the 2014-19 tariff period. Accordingly, the normative O&M expenses claimed by the Petitioner in terms of the 2014 Tariff Regulations 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>
	16000.00	17010.00	18080.00	19220.00	20430.00

## Water Charges

81. 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:*

*xxx”*



82. The Commission vide its order dated 1.2.2017 in Petition No. 328/GT/2014 had allowed water charges amounting to Rs.2560.00 lakh during the period 2014-19 (or Rs. 512 lakh each year). Further, the Commission by its order dated 1.2.2017 in Petition No. 328/GT/2014 had directed the following:

*“51. The water charges allowed as above are subject to truing-up at the end of the tariff period for which the petitioner is directed to furnish all the actual expenses incurred towards water charges.”*

83. Accordingly, the details for water charges comprising the contracted quantity, allocation of water, the actual water consumed during 2014-19, the basis of calculation of quantity of consumptive water and computation of water charges are submitted in Form 3B. In addition, the Petitioner has submitted the following:

- i. Mauda STPS was envisaged to be developed in two stages i.e. Mauda STPS Stage-I(2x500 MW) and Mauda STPS Stage-II(2x660 MW), envisaging the annual water consumption as 100 MCM. In order to have a tie-up of water on long-term basis, the Petitioner applied for water allocation corresponding to 2320 MW to Vidarbha Irrigation Department Corporation (VIDC), Nagpur, Govt. of Maharashtra. It is further submitted that NTPC had envisaged to take water from Goshikhurd Dam on river Wain ganga for meeting the water requirement of Mauda STPS (2x500 MW+2x660MW). Accordingly, an agreement was signed between Vidarbha Irrigation Department Corporation (VIDC), Nagpur, Govt. of Maharashtra on 22.8.2011 for supply of Non- Irrigation water @ Rs 3.2 per cubic meter for drawl of 100 MCM of water for Mauda STPS (2x500 MW+2x660 MW) valid for 6 years the same was renewed on 1.8.2018. It is pertinent to submit that CEA in its “Report on Minimisation of Water Requirement in Coal Based Thermal Power Stations” published in the year 2012, observed that the specific water consumption of thermal generating stations (with Ash Water Re-circulation System) of existing projects as 5m<sup>3</sup>/hr/MW and new projects as 4m<sup>3</sup>/hr/MW.
- ii. MOEF vide Gazette notification dated 7.12.2015 stipulated specific water consumption of 3.5 m<sup>3</sup>/hr/MW, for which NTPC is adopting various measures and other capital addition schemes. As per the provisions of the existing water agreement (elaborated in subsequent paragraphs), the yearly water tie-up is being renewed with an estimated quantum derived based on actual consumption experienced during the previous years, thereby minimising the burden of water charges on beneficiaries.
- iii. As per the terms and condition of the agreement, if actual drawl is less than contracted quantity, the minimum payment of water charges to be made shall be on allocation equivalent to 90 % of the specified contracted quantity and if the actual drawl exceeds 10% of the contracted quantity, the water charges are payable @1.25 times of the applicable water charges. The agreement further provides that due to any unforeseen





reasons, NTPC may revise its annual demand and accordingly it shall be charged as per changed demand. In view of the above for 2016-17, 2017-18 and 2018-19 a yearly sub-agreement has been done for the projected quantity of water for Mauda STPS. As per this sub-agreement, the water charges will have two components; charges for yearly agreed drawl quantity as envisaged in the yearly sub agreement and additional royalty at 5% for the difference of yearly agreed quantity and the original contracted quantity (100 MCM). In this regard, the copy of the agreements and notification of water charges and CEA report are submitted by the Petitioner.

- iv. The low water consumption during the 2014-15 and 2015-16 was on account of lower scheduling by the respective beneficiaries. However, the demand and consumption has subsequently increased in subsequent years.
- v. The royalty/ commitment charges are to be paid by the Petitioner, as per the terms and conditions of the agreement keeping the ensured long-term tie-up of water for the generating station for supplying the reliable power to the beneficiaries.

84. The Petitioner has claimed total actual water charges of Rs.4246.85 lakh during the period 2014-19 (i.e., Rs.605.60 lakh in 2014-15, Rs.1267.20 lakh in 2015-16, Rs.602.76 lakh in 2016-17, Rs.656.59 lakh in 2017-18 and Rs.1114.69 lakh in 2018-19). The Respondent CSPDCL and Respondent MPPMCL have submitted that as per MOEF&CC Notification dated 7.12.2015, thermal power plants installed before 1.1.2017, have to meet specific water consumption up to maximum of 3.5 m<sup>3</sup>/MWh. They have submitted that the Petitioner has failed to furnish details of actual water consumption stage-1 separately. These Respondents have further submitted that the water requirement and water charges have to be worked out considering the norms prescribed by MOEF vide its notification dated 7.12.2015, considering the revised norms under change in law. In addition to the above, the Respondent MPPMCL has submitted the following:

- i. Petitioner should not be allowed water charges twice in total of water consumption as well as separate head of domestic purpose.
- ii. Consumers ought not to be burdened for the fault of the Petitioner in assessing water requirement. Hence, the actual consumption of stage I of the generating station ought to be considered.
- iii. Water charges for township ought to be claimed by residents. Further, the claim for 2015-16 of 30 MCM cannot be made against actual use of 8.22 MCM. There is double impact of domestic water consumption, which is being claimed twice, hence ought to be



rejected. Allocation of 43 MCM was billed against actual water consumption of 30.56 MCM (2018-19). The respondent sought clarity on information pertaining to 2017-18 in terms of the water charges. Lastly, there is a wastage of resources and public money by the maintenance of contracted capacity of 100MCM as against the actual requirement of 40 MCM.

85. Accordingly, these Respondents have requested the Commission to conduct prudence check of the water consumption, while carrying out truing-up exercise.

86. In response, the Petitioner has submitted the following:

- i. The Commission vide its order dated 1.2.2017 in Petition No. 328/GT/2014 has allowed the truing up of water charges on actuals. In this regard, the water charges with relevant details like the contracted quantity, allocation of water, the actual water consumed during 2014-19 tariff period has been submitted in Form 3B.
- ii. The agreement for water charges is entered into as per the rules/provisions of the respective state water boards/Irrigation departments (as the case may be), wherein the generating station is situated. Accordingly, the generator has to sign the agreement for its installed capacity in line with the same. It is also submitted that water is the raw material for any thermal generating plant like fuel.
- iii. If a generating station is installed through a long term PPA route, the generator has to ensure water and coal corresponding to the MCR capacity or at least the normative capacity of the station so that it can offer its availability for supply of energy to the respective beneficiaries as per their entitlements. It is pertinent to mention that arrangement of raw materials is carried out on long term basis based on anticipated consumption for the same as per the contracted capacity of the station. As regards water, it is arranged in similar way, taking into account the peak requirements of the units/ station in different seasons and the maximum demand envisaged i.e. operation of unit at full load on sustained basis.
- iv. The Petitioner has reassured that it has claimed the water charges correctly as per the revised rates and norms applicable.
- v. It is denied that water charges for township have been claimed twice. In Form 3B, water charges for township have been provided under separate head for the sake of clarity. A bare perusal of the table provided in Form 3B shows that total amount claimed for water charges includes charges for industrial use and domestic purpose. There is no double inclusion. It is further submitted that township is an integral part of the Station and Petitioner is entitled to claim water charges for the same.
- vi. It had originally contracted for 100 MCM of yearly water supply not only for stage 1 but for all the stages of Mauda STPS (2320 MW) in line with CEA recommendations for specific water consumption at the time of entering into water agreement. However, it is pertinent to mention that Petitioner has considerably been able to reduce water requirement/ water charges on account of various efforts made by the Petitioner for water conservation as well as the yearly water tie-up being renewed by the instant



station with an estimated quantum derived based on actual consumption experienced during the previous years, thereby minimising the burden of water charges on beneficiaries. The water charges are mainly based on the yearly demand for water provided by Petitioner at the beginning of every financial year, with only a minor commitment/royalty charges for the original contracted capacity of water. Hence, respondent shall appreciate the efforts taken by the Petitioner in reducing the water charges by optimising the processes while at the same time avoiding any loss in generation due to shortage of water and beneficiaries are served in the best possible way.

87. The Petitioner has provided the details of contracted water and the actual consumption as per form 3(b) and has stated that petitioner has revised the contracted water as per actual requirement.

88. The matter has been considered. The Commission vide ROP of the hearing dated 18.11.2021, had directed the Petitioner to submit Auditor Certificate in respect of water charges claimed. In compliance, the Petitioner has submitted the Auditor Certificate in respect of Water charges claimed. After scrutiny of the said information, the audited actual water charges claimed by the Petitioner, as above, are allowed after the prudence check as under:

**(Rs. in lakh)**

2014-15	2015-16	2016-17	2017-18	2018-19
605.60	1267.20	602.76	656.59	1114.69

### **Capital spares**

89. Regulation 29(2) of the 2014 Tariff Regulations provides as follows:

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

*xxxx:*

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

90. As per the second proviso to Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has claimed total actual capital



spares for Rs.1435.09 lakh during the period 2014-19 (i.e. Rs.90.10 lakh in 2014-15, Rs.143.17 lakh in 2015-16, Rs.214.93 lakh in 2016-17, Rs. 289.47 lakh in 2017-18 and Rs.697.42 lakh in 2018-19). The Petitioner has submitted that in order to meet the customers demand and to maintain high machine availability at all times by the generating station, the units/ equipment's are taken under overhaul/maintenance and inspected regularly for wear and tear. It has stated that during such works, spares parts of equipment's which had been damaged/ unserviceable are replaced/consumed so that the machines continue to perform at expected efficiency, on a sustained basis. Therefore, the Petitioner has prayed that capital spares replaced/consumed by the generating station during the 2014-19 tariff period may be allowed.

91. The Commission vide ROP of the hearing dated 18.11.2021 directed the Petitioner to furnish the audited statement with respect to the consumption of capital spares, as per Form-17. In response, the Petitioner vide affidavit dated 4.6.2021 has submitted the auditor certificate in support of capital spares consumed. The details of the capital spares submitted by the Petitioner in Form 9Bi is as follows:

*(Rs. in lakh)*

Year	Capital Spares	Capital Spares	Total Capital Spares consumed
	(part of capital cost)	(not part of capital cost)	
	(A)	(B)	(A) + (B)
2014-15	90.10	0.00	90.10
2015-16	143.17	0.00	143.17
2016-17	214.93	0.00	214.93
2017-18	114.21	175.26	289.47
2018-19	301.99	395.43	697.42

92. We have examined the list of the capital spares consumed by the Petitioner. It is evident from the audited statement and Form 9Bi of the respective years that the capital spares claimed comprise of two categories i.e. (i) spares which form part of the capital cost and (ii) spares which 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 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 in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view, the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs. 1 (one) lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the petition, has been considered for the purpose of tariff. The Commission is also of the view that spares of value less than Rs. one lakh would normally form part of normal repair and maintenance expenses. Based on this, the details of the allowed capital spares considered for 2014-19 tariff period is summarized 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>
Capital spares not part of capital cost claimed	0.00	0.00	0.00	175.26	395.43
Value of spares Rs 1(one) lakh and below are disallowed on individual basis	0.00	0.00	0.00	1.16	0.97
Net total value of capital spares considered	0.00	0.00	0.00	174.10	394.47

93. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of



2014 Tariff Regulations is as under:

	<i>(Rs. In lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	0.00	0.00	0.00	174.10	394.47
Less: Salvage value @ 10%	0.00	0.00	0.00	17.41	39.45
<b>Net Capital spares allowed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>156.69</b>	<b>355.02</b>

94. Based on the above, the total annualized O&M expenses allowed for the 2014-19 tariff period in respect of the generating station, is summarized as under:

		<i>(Rs. In lakh)</i>				
O&M Expenses		2014-15	2015-16	2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		1000.00	1000.00	1000.00	1000.00	1000.00
O&M Expenses under Reg.29(1) in Rs lakh / MW (B)		16.00	17.01	18.08	19.22	20.43
Total O&M Expenses (in Rs lakh) (C) = (A)*(B)	Claimed	16000.00	17010.00	18080.00	19220.00	20430.00
	Approved	16000.00	17010.00	18080.00	19220.00	20430.00
Water Charges (in Rs lakh) (D)	Claimed	605.60	1267.20	602.76	656.59	1114.69
	Approved	605.60	1267.20	602.76	656.59	1114.69
Capital Spares Consumed (in Rs lakh) (E)	Claimed	90.10	143.17	214.93	289.47	697.42
	Approved	0.00	0.00	0.00	156.69	355.02
<b>Total O&amp;M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)</b>	Claimed	<b>16695.71</b>	<b>18420.37</b>	<b>18897.69</b>	<b>20166.06</b>	<b>22242.12</b>
	Approved	<b>16605.60</b>	<b>18277.20</b>	<b>18682.76</b>	<b>20033.28</b>	<b>21899.71</b>

### **Impact of Goods and Service Tax (GST)**

95. The Petitioner has claimed impact of GST for Rs. 182.76 lakh during the period 2017-18 and Rs. 227.07 lakh in 2018-19. The Petitioner vide affidavit dated 29.6.2021 has submitted that O&M expenses comprises of employee wages and generation administration and other expenses (renamed as "Other Expenses" in the books of the Company after introduction of IND-AS). These inter alia include repair and maintenance and other overheads of the station. The Petitioner has bifurcated the generation administration and other expenses into material consumed, taxable services and exempt services. The amount claimed by the Petitioner is only on account of differential



in rate of tax for taxable services (i.e. under erstwhile Service Tax 15% and in GST 18%) as under:

<i>(Rs. In lakh)</i>			
Nature		2017-18 Q2-Q4 Post GST period claimable	2018-19 GST claimable
Material	A	3204.92	7403.96
Services- Taxable	B	14481.03	20721.12
Services- Exempt	C	9767.15	14414.28
Total General Administration Expenses	D=A+B+C	27453.11	42538.87
<b>Impact of 3% additional tax on Taxable Services due to GST</b>	<b>E= B*0.03/1.18</b>	<b>368.16</b>	<b>526.81</b>
Equated Capacity of Mauda STPS Station (MW)	F	2013	2320
Equated Capacity of Mauda STPS-I (MW)	G	1000	1000
<b>Amount claimed</b>	<b>E*G/F</b>	<b>182.93*</b>	<b>227.07</b>

\* The Petitioner in additional submission vide affidavit dated 29.6.2021 has clarified that there is minor rectification in the claim from Rs. 182.76 lakh claimed in petition to Rs. 182.93 lakh during 2017-18.

96. The Petitioner vide its affidavit dated 16.7.2021 has submitted the Auditor's certificate in justification for the impact of GST on O&M expenses.

97. The Respondent, CSPDCL has submitted that the Petitioner may be directed to provide the details of the GST claims with documentary proof, showing that such expenses has really been incurred towards O&M expenses. The Respondent MPPMCL has submitted that there is an overall reduction of tax rate with the introduction of GST, as evident from various publications. It has also submitted that the Petitioner may be directed to submit the item-wise details of the amount of GST paid vis-à-vis the amount which might have been paid, considering the old tax regime, to evaluate the impact of GST. The Respondent MSEDCL has placed reliance on the MOP, GOI letter dated 27.8.2018 addressed to the Commission and has submitted that GST expenses with regard to O&M activities have not been included. It has stated that the claim by the Petitioner will create additional burden on the consumers and therefore, the GST expenses may be disallowed. The Petitioner in its rejoinder has clarified that the





requisite details have been submitted vide affidavit dated 29.6.2021. It has also submitted the Auditor's certificate vide additional affidavit dated 16.7.2021. The Petitioner has further submitted that O&M is one of the elements of fixed charges, which has gone through the phase of revision/ escalations in actuals on account of 'change in law' (i.e. GST implementation) and hence may be tried up in accordance with Regulation 8(3) of the 2014 Tariff Regulations. The Petitioner has pointed out that the said position was affirmed in GMR Warora Energy Limited vs CERC & Ors. (Order dated 14.8.2018 in Appeal No. 111 of 2017) and in The Commission on its own motion vs. GMR-Kamalanga Energy Limited & Ors (Order dated 14.3.2018 passed in Petition No. 13/SM/2017).

98. We have considered the submissions of parties. While framing the 2014 Tariff Regulations, the variation in taxes and duties have been captured in the normative O&M expenses allowed and any change in taxes is not admissible separately. Further, the 2014 Tariff Regulations has not specifically mentioned any consideration for allowing taxes separately. The escalation rates considered in the normative O&M expenses is only after consideration of the variations during last five years, which also takes care of 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. Therefore, for any increase in taxes and duties, the Petitioner is not entitled to claim any additional expenses. As such, additional O&M expenses on account of GST are not admissible separately.

### **Impact of wage revision**

99. The Petitioner has claimed an amount of Rs. 4961.88 lakh during 2015-19 (Rs. 15.04 lakh in 2015-16, Rs. 1083.30 lakh in 2016-17, Rs. 1652.40 lakh in 2017-18 and Rs. 2211.14 lakh in 2018-19) towards impact of wage revision, in respect of employees of CISF and Kendriya Vidyalaya Staff from 1.1.2016 and the employees of the Petitioner,





posted in the generating station, with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes impact on account of the payment of additional PRP/ ex-gratia to its employee's consequent upon wage revision. As such, as per consistent methodology adopted by the Commission, the additional PRP/ ex-gratia paid, as a result of wage revision impact, has been excluded from the wage revision impact claimed by the Petitioner in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 4201.96 lakh with the following year-wise break-up

*(Rs. in lakh)*

	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed excluding PRP/ exgratia	15.04	1083.31	1478.35	1520.87	4097.56

100. The Petitioner vide its affidavit dated 29.6.2021 has submitted the following:

- (a) Comparative table indicating the actual O&M expenses incurred at this generating station versus the normative O&M expenses allowed for the 2014-19 tariff period for the whole generating station (i.e. all Stages of FGUTPS);*
- (b) Actual impact of pay revision duly certified by Auditor, Expenses after comparing salaries wages before and after pay revision; and*
- (c) Detailed break-up of the actual O&M expenses booked by the Petitioner on gross basis;*

101. The Petitioner vide its affidavit dated 29.6.2021 has furnished the actual O&M expenses for Stage-I and Stage-II of the generating station for the 2014-19 tariff period, along with the wage revision impact (excluding PRP and ex-gratia) for the generating station as shown below:

*(Rs. in lakh)*

Year	Actual O&M expenses for Mauda STPS (excluding water charges)	Wage Revision impact claimed for Mauda STPS- Stage-I (excluding PRP/Ex-gratia)
2014-15	15068.18	0.00
2015-16	17596.51	15.04
2016-17	21581.09	1083.31
2017-18	36153.44	1478.35
2018-19	47250.57	1520.87
<b>Total</b>	<b>137649.79</b>	<b>4097.57</b>



102. The Respondent MPPMCL has submitted that the Petitioner ought to have submitted the head-wise actual O&M expenses for each financial year, during 2014-19 tariff period. It has also submitted the following:

- i. Rs. 1000 lakh as claimed by the Petitioner is inflated and needs to be scrutinised.*
- ii. Gross mismatch in pre-revised and post revised claims for 2017-18 & 2018-19 when come pared to the three months of 2016-17. This is the case only in terms of the employees of the Petitioner.*
- iii. Prudence check by the Commission was requested by the respondent in lieu of the same.*
- iv. The Petitioner were incurring huge profits, the burden of revision of wage revision should be borne by the Petition in terms of the Memorandum dated 3.8.2017.*

103. The Respondent CSPDCL and Respondent MPPMCL have submitted that the Commission has determined the norms for O&M expenses for the generating stations of different sizes and these norms include employee expenses as well. They have also submitted that for arriving at the norms for O&M expenses, the Commission, has considered the employee expenses for the five years for the period from 2008-09 to 2012-13, which were normalized and subsequently norms for O&M charges were fixed. The Respondents have further submitted that any increase in employee expenses on account of wage revision were supposed to be accounted in the Tariff Regulations for the next period i.e., 2019-24. They have stated that since there is no provision in the 2014 Tariff Regulations for any additional O&M charges, the claim of the Petitioner may be rejected. The Respondents have pointed out that the Statement of Objects and Reasons (SOR) to the 2014 Tariff Regulations, mentions that the Commission will consider increase in employee expenses, on a case-to-case basis, and the same was not mentioned in the Tariff Regulations notified and as such the claim of the Petitioner for additional employee cost is not tenable and the Petitioner should bear such expenses from its own profit. The Respondent MSEDCL has submitted that the Commission needs to assess the actual O&M expenses, based on audited accounts of all the Petitioner's thermal stations, to verify if there is any difference between the



audited O&M expenses and the normative O&M expenses of the generating stations and accordingly, allow or disallow the impact of pay revision, as claimed by the Petitioner. The Respondent MPPMCL has pointed out that there is a huge difference between the claims of employee cost for 2018-19 and the post revision salary for Stage-I, leaving an unreasonable employee expenses for Stage-II. It has further submitted that other expenses of canteen, other staff welfare, guest house ought to be borne by the Petitioner from its ROE and the cost of corporate offices ought to be examined by the Commission.

104. In response the Petitioner has submitted the following:

- i. It is seeking additional O&M expenses on account of enhancement of O&M expenses w.e.f. 1.1.2016/1.1.2017 based on the 2014 Tariff Regulations which was notified prior to implementation of 7<sup>th</sup> Commission on 3.8.2017. It is further submitted that the O&M expense of 2014 Tariff Regulations was founded on actual O&M expense for FY 2008-09 to 2012-13. However, 3<sup>rd</sup> Pay Revision Committee for CPSU's were not in existence and/ or incorporated while the 2014 Tariff Regulations were being specified by the Commission. Accordingly, the impact thereof, ought to be made pass through in terms of Regulation 54 and 55 of 2014 Tariff Regulations.
- ii. The Commission has allowed the impact of pay revision in the past vide Orders dated 12.10.2012 in Petition No. 35/MP/2011 titled as NTPC vs. WBSEDCL & Ors., 11.12.2012 passed in Petition No. 201/MP/2011 titled as Neyveli Lignite Corporation Limited, Chennai vs. TANGEDCO & Ors, 1.1.2013 passed in Petition No. 101/MP/2010 titled as PGCIL vs. Bihar State Electricity Board, Patna & Ors.
- iii. While determining O&M norms for 2019-24 tariff period, actual O&M expenses for thermal stations for the period 2012-13 to 2017-18 were considered and the enhancement due to the above could not be considered. In this regard, it may be noted that while specifying O&M norms for the period 2019-24 the impact of employees pay revision has been considered separately of Explanatory Memorandum for Draft 2019 Tariff Regulations.
- iv. The Petitioner has highlighted previous instances like in the case of "The Hon'ble Supreme Court of India in *Madava Upendra Sinai v. Union of India*, (1975) 3 SCC 765", "The Hon'ble High Court of Rajasthan in case of *Hari Singh v. State of Rajasthan*, 1992 SCC OnLine Raj 210", "The Hon'ble Tribunal in Order dated 21.03.2018 passed in Appeal No. 107 & 117 of 2015 Haryana Power Purchase Centre Vs. Haryana Electricity Regulatory Commission" and other such cases where in the Commission has invoked Regulation 55 "Power to remove difficulty" in and Regulation 54 "Power to relax" of 2014 Tariff Regulations and has sought to pass through of the impact of pay revision leading to increment in O&M cost under change in law.

105. The Petitioner has submitted that the certificate for impact of revision in salaries



& wages, paid to the employees and staff of CISF & KV in stage-I and stage-II, has been filed on 30.6.2021. It has also submitted that the corporate office is a vital part of the Petitioner and performs multiple common functions (optimizing manpower thus reducing the cost) and provides support to the Petitioner's generating stations, enabling them to perform efficiently and serve the beneficiaries in the best possible manner. is the Petitioner has further submitted that the expenses incurred are as per industry standards and the Petitioner undertakes regular efforts to reduce the cost.

106. The matter has been examined. 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 Statement of Object and Reasons (SOR) to the 2014 Tariff Regulations had observed that the increase in employees cost due to impact of pay revision impact will be examined on a case-to-case basis balancing the interest of generating stations and the consumers. The relevant extract of SOR is extracted as follows:

*"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 macroeconomics 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.***



107. It is observed that above methodology as indicated in SOR suggests comparison of normative O&M expenses with actual O&M expenses, on 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 expenses of past five years to capture the year-on-year variations in sub-heads of O&M expenses;
- b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;
- c) When some of the generators find that their actual expenditure has gone beyond the normative O&M expenses in a particular year, they put departmental restrictions and try to bring the expenditure for the next year below the norms.

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

109. The Petitioner has furnished the detailed break-up of the actual O&M expenses incurred during the 2014-19 tariff period for combined stages i.e., Stage-I and II of the generating station (2320 MW). It is noticed that the total O&M expenses incurred is more than the normative O&M expenses recovered during each year of the 2014-19 tariff period. The impact of the wage revision could not be factored by the Commission, while framing the O&M expenses norms under the 2014-19 Tariff Regulations, since the pay/



wage revision came into effect from 1.1.2016 (CISF & KV employees) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of relevant provisions of SOR of the 2014 Tariff Regulations, the approach followed for arriving at the allowable impact of pay revision is given in the subsequent paragraphs.

110. First step is to compare the normative O&M expenses with the actual O&M expenses 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, water charges, filing fees, ex-gratia, loss of provisions, prior period expenses, community development, store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/ details) which were not considered while framing the O&M expenses norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate centre. Having brought the normative O&M expenses and actual O&M expenses at same level, if normative O&M expenses for the period 2015-19 are higher than actual O&M expenses (normalized) for the same period, the impact of wage revision (excluding PRP and ex-gratia) as claimed for the 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 less 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.

111. As stated, for like-to-like comparison of the actual O&M expenses and normative O&M expenses, the expenditure against O&M expenses sub-heads as discussed at above, has been excluded from the actual O&M expenses to arrive at the



actual O&M expenses (normalized) for the combined Stage-I and II of the generating station (2320 MW). Accordingly, the following table portrays the comparison of normative O&M expenses versus the actual O&M expenses (normalized) along with wage revision impact claimed by the Petitioner for the generating station (Stage-I 1000 MW) for the period 2015-19 commensurate with the wage revision claim being spread over these four years:

*(Rs. in lakh)*

SI. No		2015-16	2016-17	2017-18	2018-19	Total for 2015-19
1	Actual Audited O&M expenses (excluding water Charges) for Mauda STPS (Combined for stage-I and II)	17596.51	21581.09	36153.44	47250.57	122581.61
2	Actual O&M expenditure (normalized) for Mauda STPS (Combined for stage-I and II) (a)	15533.65	19334.23	32314.71	40103.05	107285.65
3	Actual O&M expenditure (normalized) for Mauda STPS -I prorated based on capacity (b)	15533.65	19334.23	13928.76	17285.80	66082.44
4	Normative O&M Expenses for Mauda STPS -I (c)	17010.00	18080.00	19220.00	20430.00	74740.00
5	Under-recovery (-) / over recovery (+) (c)-(b)	1476.35	(-)1254.23	5291.24	3144.20	8657.56

112. It is observed from the table above that for the years of wage revision impact i.e., 2015-16 to 2018-19, the normative O&M expenses allowed on a combined basis, are in excess of the actual expenses incurred by the Petitioner. As such, the Commission is not inclined to allow the recovery of impact of wage revision through additional O&M expenses, since the normative O&M expenses allowed to the generating station in terms of the Regulations, are sufficient to cater to the requirement of the impact of wage revision. The prayer of the Petitioner is disposed of in terms of the above.





## Ash Transportation Charges

113. The Petitioner has claimed an amount of Rs.880.99 lakh in 2018-19 towards Ash Transportation expenses, as additional O&M expenses. The Petitioner has submitted that the notification dated 25.1.2016 of MoEF&CC, GOI, issued in terms of the provisions of the Environment (Protection) Act 1986, provides for the transportation cost of Fly ash generated at power stations, to be borne by such generating companies. The Petitioner has also stated that it had filed Petition No. 172/MP/2016 before this Commission, seeking reimbursement of the additional expenses incurred towards Fly Ash transportation, directly from the beneficiaries as the same are statutory expenses. Accordingly, the Petitioner has sought reimbursement of the additional expenditure incurred towards fly ash transportation, as under:

<i>(Rs. in lakh)</i>	
	<b>2018-19</b>
Expenditure towards fly ash transportation (A)	880.99
Revenue Earned from Sale of Fly Ash (B)	0
Net Additional O&M expenditure Claimed (C)= (B-A)	880.99

114. The Commission vide ROP of the hearing dated 13.8.2020, directed the Petitioner to furnish the following additional information:

- (i) 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;*
- (ii) Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors;*
- (iii) 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;*
- (iv) Revenue generated from fly Ash sales maintained in a separate account as per the MoEF&CC notification;*
- (v) Accordingly, the Petitioner shall confirm that it has complied with the above conditions and submitted the details thereof along with the computation of the claimed cost towards Ash Transportation. The additional information submitted shall also include the name of the transporters, the distance of the end user (in km), the awarded rate in Rs./ton per kilometer etc., and any other details as considered relevant to the said claim in terms of the MoEF&CC Notification dated 25.1.2016;*

115. In response, the Petitioner vide its affidavit dated 29.6.2021 has submitted the





following:

- i. A Memorandum of Understanding (MoU) was entered between NTPC and National Highway Authority of India (NHAI) on 4.5.2018 for bearing cost of transportation cost of ash from NTPC Mauda STPS for use in various road construction projects in Division Gadchiroli in the State of Maharashtra for its utilisation in compliance of MoEF&CC gasette notification dated 03.11.2009 and its amendment dated 25.01.2016. The rate for transportation of fly ash will be as per the prevailing Schedule of Rates (SoR) of Maharashtra. A copy of service purchase order has been attached.
- ii. The Petitioner has already submitted the ash transportation expense that were charged to P&L over and above station ash fund, duly certified by the auditor. The same expense has been claimed by the Petitioner as the additional O&M expense on account of Transportation of Ash in terms of the MOEF&CC notification dated 25.1.2016. These net expenses charged to P&L has been arrived at by deducting the revenue earned from sale of fly ash/fly ash products after 25.1.2016.
- iii. An auditor certificate in respect of net expenses met out of P&L has already been submitted. The expenditure incurred for the entire station has been allocated based on the equated capacity of the stages in the entire station.
- iv. Revenue generated from fly ash sales is being maintained in a separate account as per the said MOEF&CC Notification.

116. The Respondent CSPDCL and Respondent MPPMCL have submitted that the Petitioner was supposed to invite bids for transportation of Ash or alternatively adopt the rates as per schedule of rates for Ash transportation as notified by the respective State Govt and accordingly, the rates for Ash transportation has to be indicated by the Petitioner. They have further submitted that as per MoEF&CC Notification, a separate account for the revenue generated from sale of fly Ash/ fly Ash products, has to be maintained by the Petitioner, but the Petitioner has neither indicated the rates for ash transportation nor the amount realized towards sale of fly ash or its products. Accordingly, they have submitted that the Petitioner may be directed to provide the above details or else the claim may be disallowed. The Petitioner in its rejoinder has clarified that it has furnished the details sought by the Commission vide affidavit dated 29.6.2021 with regard to the expenditure incurred on fly ash transportation.

117. The matter has been considered. As regards the reimbursement of Ash



transportation expenses, the Commission in its order dated 5.11.2018 in Petition No.172/MP/2016, while directing compliance of certain conditions by the Petitioner, had granted liberty to the Petitioner to approach the Commission at the time of truing-up exercise for the 2014-19 tariff period along with all details/information, duly certified by auditor.

118. The MOEF&CC notification dated 25.1.2016 provides as follows:

*“10. The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agriculture activity within a radius of hundred kilometers from a coal or lignite based thermal power plant shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond the radius of hundred kilometers and up to three hundred kilometers shall be shared equally between the user and the coal or lignite based thermal power plant.”*

119. It is noticed that the Petitioner has furnished the auditor certificate and has also submitted the relevant information required in terms of the MoEF&CC notification dated 25.1.2016 (such as the quantum of ash transported, locations, the distance of the end user (in km), the applicable awarded rate in Rs/ton per kilometer, name of the transporters, etc.). In view of this, we allow the said expenditure of Rs 880.99 lakh towards fly ash transportation.

## **Operational Norms**

### **Normative Annual Plant Availability Factor**

120. The Normative Annual Plant Availability Factor of 83% for 2014-15 to 2016-17 and 85% for 2017-18 and 2018-19, as approved by order dated 1.2.2017 in Petition No. 328/GT/2014 and in accordance with the provisions of Regulation 36 (A) of the 2014 Tariff Regulations, is allowed.

### **Auxiliary Energy Consumption**

121. The Normative Auxiliary Energy Consumption of 5.75% claimed is in accordance with the provisions of Regulation 36 (E)(a)(ii) of the 2014 Tariff Regulations

and hence allowed.

### **Station Heat Rate**

122. The Gross Station Heat Rate of 2400.64 Kcal/ kWh, as approved by order dated 1.2.2017 in Petition No. 328/GT/2014 is in accordance with the provisions of Regulation 36 (C) of the 2014 Tariff Regulations and the same is allowed.

### **Interest on working capital**

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

*“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.*

*(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.”*



## **Fuel Components and Energy Charges in working capital**

124. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined.

125. In terms of Regulation 30 (6) of the 2014 Tariff Regulations, for determination of the Energy Charges in working capital, the GCV on 'as received' basis is to be considered.

126. 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 for computation of energy charges was challenged by the Petitioner and other generating companies through various writ petitions filed before the Hon'ble High Court of Delhi (W.P. No.1641/2014-NTPC v CERC) challenged Regulations 30(6) of the 2014-19 Tariff Regulations with regard to measurement of GCV of coal on 'as received' basis for purpose of Energy Charges and the Hon'ble Court had directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on 'as received' basis on the request of Petitioners. In terms of the directions of the Hon'ble High Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff



of Kahalgaon STPS for the 2014-19 tariff period), decided as under:

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

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

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

128. The review petition filed by the Petitioner against the aforesaid order dated 25.1.2016 was rejected by the Commission vide order dated 30.6.2016 in Petition No.11/RP/2016. The Petitioner filed Petition No. 244/MP/2016 before this Commission praying for removal of difficulties and the issues faced by it in implementing the Commission’s orders dated 25.1.2016 and 30.6.2016 with regard sampling of coal from loaded wagon top for measurement of GCV and the Commission by its order dated 19.9.2018 had disposed of the preliminary objections of the respondents therein and held that the petition is maintainable. Against this order, some of the respondents have filed appeal before the APTEL in Appeal Nos. 291/2018 (GRIDCO v NTPC & ors) and the same is pending.

129. In Petition No. 328/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on ‘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 order dated 1.2.2017 in Petition No.328/GT/2014 had considered GCV of coal on 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 claimed the fuel related components of working capital based on GCV of coal as 3399.40 Kcal/kg (as indicated at Form-13F) consequent to the order of the Commission dated 1.2.2017 in Petition No. 328/GT/2014. This "as received" GCV of 3399.40 kcal/kg represents the average of monthly as received GCVs for period from October 2016 to March 2019 (30 months). Further, the Petitioner has submitted that CEA vide letter dated 17.10.2017 has opined that 85-100 kcal/kg for a pit-head station and a margin of 105-120 kcal/kg for non-pit head station may be considered as a loss of GCV of coal between 'as received' and 'as fired'. Accordingly, the Petitioner has considered 120 kcal/kg margin on the average GCV of the period from October 2016 to March 2019 for computing working capital. Accordingly, the cost of fuel component in the working capital of the generating station as follows:

	<b>(Rs. in lakh)</b>				
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Cost of Coal towards stock (30days of generation corresponding to NAPAF)	23107.26	23107.26	23107.26	23664.07	23664.07
Cost of Coal towards Generation (30 days of generation corresponding to NAPAF)	23107.26	23107.26	23107.26	23664.07	23664.07
Cost of Secondary fuel oil (2 months of generation corresponding to NAPAF)	431.35	432.53	431.35	441.74	441.74

131. The Petitioner has also submitted that it has filed separate petition (Petition No. 244/MP/2016) seeking appropriate reliefs due to extreme practical difficulty faced by the Petitioner in implementing Regulation 30(6) of the 2014 Tariff Regulations and directions issued by the Commission in its order dated 25.1.2016 and for consequential directions. It has also sought liberty to make additional submissions based on the final decision in Petition No. 244/MP/2016.

132. In response to the clarification sought from the Petitioner on the details of GCV



on 'as received' basis for the months of January, 2014 to March, 2014, which was uploaded in the website of the Petitioner and shared with the beneficiaries, the Petitioner vide affidavit dated 29.6.2021, has submitted that though the computation of energy charges moved from 'as fired' basis to 'as received' basis, with effect from 1.4.2014, in terms of Regulation 30(6) of the 2014 Tariff Regulations, however, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV shall 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 2014-19 tariff period, 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, 2014 on actual GCV i.e. 'as fired' GCV. The Petitioner, without prejudice to the above submissions, has furnished the details of GCV on 'as received' basis for the months of January 2014 to March 2014, in compliance with the directions of the Commission, as under:

Sl.	Month	Wt. Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture (TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Wt. Avg GCV of coal received (TM basis) (kcal/kg) (D=A*(1-B%)/(1-C%))
1	January 2014	3790.00	11.00	4.00	3513.65
2	February 2014	4196.72	11.27	4.26	3891.73
3	March 2014	4403.12	11.50	3.69	4045.65





Sl.	Month	Wt. Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture (TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Wt. Avg GCV of coal received (TM basis) (kcal/kg) (D=A*(1-B%)/(1-C%))
	<b>Average</b>				<b>3817.01</b>

133. The Respondents CSPDCL, MPPMCL and MSEDCL has submitted as follows:

- i. The margin of 120 Kcal /Kg claimed by the petitioner on the average GCV for the period October, 2016 to March, 2019 for calculation of working capital may be disallowed as the same is not supported by Regulations. Respondent MPPMCL submitted that the petitioner should have reduced the gross inefficiency in handling coal or justify for average slippage of 1260 kcal/kg in coal transportation. Therefore, the issue of slippage of GCV is a major concern which has not been taken by the Commission. Respondent MSEDCL requested that any such loss in GCV for computing working capital requirement shall be disallowed.
- ii. There is vast difference (more than 1500 Kcal/Kg) between the GCV as billed and GCV as fired submitted by the Petitioner. As such this issue may be examined critically by the Commission because the beneficiaries are heavily burned on this count. Further as per Regulation 30 (6) (b) of 2014 Tariff Regulations, weighted average GCV of primary fuel on as received basis has to be considered. As such the energy charges, be calculated on the basis of GCV as received basis only. The Respondent MPPMCL submitted that lastly, no transportation and handling loss is allowed in secondary fuel oil and no margin or transportation, and handling losses ought to be allowed for coal. Section 61(c) of the Electricity Act 2003 is to be followed for optimum utilisation of resources. Further, a gross violation Regulation 30(6)(b) has been committed by the Petitioner as it has calculated the weighted average GCV of coal as fired basis as opposed to the weighted average gross calorific value of primary fuel, as received basis. Hence, the consideration of GCV for IOWC is not tenable as it is not a subject matter of a true up and hence shall be rejected.
- iii. Further, Respondent MSEDCL submitted that the Commission has considered the reduction of 85 Kcal/Kg on account of variation during storage at generating station and has further not considered stacking loss of 100 kcal/Kg. Hence, for the purpose of calculation of the Energy Charge for coal based and lignite fired stations, weighted average GCV of coal as received, in kcal/kg needs to be considered as per Regulation 30 (6) of 2014 Tariff Regulations.

134. In response, the Petitioner has made the following submissions:

- i. Regulation 28(2) of 2014 Tariff Regulations provided for computation of IOWC based on the GCV of fuel as per actuals for the month of January 2014 to March



2014. With the coming of the 2014 Tariff Regulations w.e.f. 1.4.2014, GCV “as received” is to be used for computation of Energy Charge Rate. Accordingly, for the said period, i.e., January 2014 to March 2014, which fell in the previous tariff period of 2009-14, the actual GCV measured was on “as fired” basis. With regards to contention of the respondent MPPMCL that there is a difference between GCV of coal as billed and as fired, it is submitted that both the values are computed based on different parameters and hence cannot be compared.

- ii. The GCV as billed is based on Equilibrated Moisture at mine end while GCV as fired is based on Total Moisture content of coal measured just before firing of coal. Further, GCV as billed is based on measurement of GCV of coal in line with the IS standards /Fuel Supply Agreement with the coal supplier while GCV as fired is derived from GCV which is measured at the boiler front. It is further submitted that GCV reduces on account of loss of volatile matter and on account of stacking loss. It is evident from various studies conducted, including by CEA, that there is a loss in GCV of coal between as received and as fired. In fact, Regulation 42(2) of 2019 Tariff Regulations also considers a loss of 85 Kcal/Kg on account of variation during storage at generating station. In view of the above, the contents raised by the respondent are liable to be rejected.
- iii. As regards contentions of the respondent MSEDCL, the Petitioner has submitted that the Energy Charges has been computed by the Petitioner by taking into account adjustment of 100 kcal/kg on the average GCV of the period from October 2016 to March, 2019 as per the CEA recommendations in the letter dated 17.10.2017.

135. The submissions have been considered. As discussed above, the Petitioner in Form-13 F, has considered the average GCV of coal on “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 2014-19 tariff period. In addition to the average GCV, it has also considered a margin of 120 kCal/kg for computation of the working capital of the generating station.

136. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, calculation of IWC for 2014-19 tariff period is to be



based on such values for 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 2014-19 tariff period in Petition No. 328/GT/2014. In the present petition, the Petitioner has proposed that instead of GCV for January 2014, February 2014 and March 2014, the Commission should consider the average values for 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) 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 120 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

137. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014 as discussed above, it has submitted that GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the 2009-14 tariff period for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on



'as received' basis). This submission of the Petitioner is also not acceptable in view of provisions of Regulation 21(6) of the 2009 Tariff Regulations that was amended on 31.12.2012, by addition of the following provisos.

*"The following provisos shall be added under Clause (6) of Regulation 21 of the Principal Regulations as under, namely:*

*Provided that 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 form 15 of the Part-I of Appendix I to these regulations:*

*Provided further 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."*

138. Accordingly, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on 'as received' basis was also required to be furnished by the Petitioner along with bills of the respective month. Also, bills detailing the parameters of GCV and price of fuel were to be displayed by the Petitioner on its website, on 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 2014-19 tariff period was to ensure that GCV losses which might occur within the generating station after 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 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 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 2014-19 tariff period. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. 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 'as received' basis, we consider the fuel component and energy charges 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. The Petitioner has calculated GCV of 3817.01 kcal/kg which represents the simple average of GCV received of the preceding three months after adjustment of moisture content. We have considered the weighted average GCV as received (without any adjustment of moisture content) for three months, which works out to 4129.95 kcal/kg.

141. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition except for 'as received' GCV of coal. All other operational norms such as Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Cost have been considered as per



the 2014 Tariff Regulations for calculation of fuel components in working capital.

142. Based on the above discussion, the cost of fuel components in working capital is worked out and allowed as follows:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (30 days of generation corresponding to NAPAF)	15554.08	15554.08	15554.08	15928.88	15928.88
Cost of Coal towards generation (30 days of generation corresponding to NAPAF)	15554.08	15554.08	15554.08	15928.88	15928.88
Cost of Secondary fuel oil (2 months of generation corresponding to NAPAF)	431.28	432.46	431.28	441.67	441.67

**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:*

*(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.*

*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 Energy Charge Rate (ECR) ex-bus of Rs. 4.14 /kWh for the generating station based on the landed cost of coal during preceding three months, GCV of coal [on ‘as received’ basis for average of 30 months] along with the storage loss of 120 kCal/kWh} & GCV and price of Oil procured and burnt for the



preceding three months of 2014-19 tariff period for the generating station. Since these claims of the Petitioner has not be allowed as stated above, the allowable ECR, based on the operational norms as specified under the 2014 Tariff Regulations and on weighted average of 'as received' GCV of 4129.95 kcal/kg is worked out as follows:

	<b>Unit</b>	<b>2014-19</b>
Capacity	MW	1000
Gross Station Heat Rate	Kcal/kWh	2400.64
Auxiliary Energy Consumption	%	5.75
Weighted average GCV of oil (As received)	Kcal/lit	9500
Weighted average GCV of coal (As received)	Kcal/kg	4129.95
Weighted average price of oil	Rs./KL	71180.27
Weighted average price of Coal	Rs./MT	4486.53
<b>Rate of energy charge ex-bus</b>	<b>Rs./kWh</b>	<b>2.799</b>

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

145. The Petitioner in Form-13B has claimed maintenance spares in the working capital shown 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>
3339.14	3687.08	3996.20	4400.24	5112.26

146. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the operation & maintenance expenses. As specified in Regulation 29(2) of the 2014 Tariff Regulations, the cost of maintenance spares @20% of the operation & maintenance expenses including water charges and cost of capital spares consumed, allowed are 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>
3321.12	3655.44	3736.55	4006.66	4379.94

### **Working Capital for Receivables**

147. Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on NAPAF, has been worked out duly taking into account mode of operation of the generating station on secondary fuel, as follows:





	<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)	31967.98	32055.56	31967.98	32738.29	32738.29
Fixed Charges – for two months (B)	20420.27	21227.47	21569.11	21762.71	21785.68
<b>Total (C) = (A+B)</b>	<b>52388.26</b>	<b>53283.03</b>	<b>53537.09</b>	<b>54501.00</b>	<b>54523.98</b>

### **Working Capital for O & M Expenses**

148. O&M expenses for 1 month claimed by the Petitioner in Form-13B for the purpose of working capital is as follows:

<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>
1391.31	1536.28	1665.08	1833.43	2130.11

149. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for O&M expenses for one month for coal-based generating station as a part of working capital. The one-month O&M expenses, as allowed is shown as follows:

<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>
1383.80	1523.10	1556.90	1669.44	1824.98

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

150. The Respondent MPPMCL has submitted that the O&M expenses excluding water charges and security expenses etc. ought to be allowed for calculation of interest on working capital. It has also submitted that water charges and security expenses may not be included in the annual fixed charges, for receivables as it has been allowed separately. The Respondent has also submitted that the amount of grossing up of income tax may be excluded while calculating receivables and issue of normative rate of interest on working capital may be revisited for its downward revision of interest rate using the inherent power under Regulation 54 and Regulation 55 of the 2014 Tariff Regulations.

151. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10.00 + 350



bps). Accordingly, Interest on working capital has been computed as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Cost of Coal for 30-day Stock of coal of generation corresponding to NAPAF (A)	15554.08	15554.08	15554.08	15928.88	15928.88
Working capital for cost of Coal for 30 days generation corresponding to NAPAF (B)	15554.08	15554.08	15554.08	15928.88	15928.88
Working capital for Cost of oil for 2 months Generation corresponding to NAPAF (C)	431.28	432.46	431.28	441.67	441.67
Working capital for O & M expenses - 1 month of O&M Expenses (D)	1383.80	1523.10	1556.90	1669.44	1824.98
Working capital for Maintenance Spares - 20% of O&M expenses (E)	3321.12	3655.44	3736.55	4006.66	4379.94
Working capital for Receivables - 2 months sale of electricity on NAPAF (F)	52388.26	53283.03	53537.09	54501.00	54523.98
<b>Total Working Capital (G) = (A+B+C+D+E+F)</b>	<b>88632.62</b>	<b>90002.20</b>	<b>90369.98</b>	<b>92476.53</b>	<b>93028.33</b>
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Total Interest on Working capital (I) = ((G)*(H)</b>	<b>11965.40</b>	<b>12150.30</b>	<b>12199.95</b>	<b>12484.33</b>	<b>12558.82</b>

### Annual Fixed Charges

152. Based on the above, the annual fixed charges approved for the 2014-19 tariff period in respect of the generating station are summarized below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	29833.25	31716.32	32943.03	33658.01	33719.63
Interest on Loan	30291.92	28915.37	27747.18	25673.09	23616.80
Return on Equity	33825.47	36305.62	37841.74	38727.55	38919.14
O&M Expenses	16605.60	18277.20	18682.76	20033.28	21899.71
Interest on Working Capital	11965.40	12150.30	12199.95	12484.33	12558.82
<b>Total</b>	<b>122521.65</b>	<b>127364.80</b>	<b>129414.66</b>	<b>130576.26</b>	<b>130714.11</b>
<b>Annual Fixed Charges approved in Petition No. 328/GT/2014</b>	<b>121013.60</b>	<b>128053.95</b>	<b>131658.23</b>	<b>132716.90</b>	<b>131477.06</b>

153. The difference between the annual fixed charges already recovered by the Petitioner and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 (13) of the 2014 Tariff Regulations.



154. Annexure-I given below shall form part of this order.

155. Petition No. 393/GT/2020 stands disposed of in terms of the above.

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

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

**Sd/-**  
**(I.S. Jha)**  
**Member**



**Depreciation for the 2014-19 Tariff Period****\*Calculated as per rate of depreciation in Appendix-II of the 2014 Tariff Regulations.****(Rs. in lakh)**

Name of assets	Depreciation Rate	For 2014-15		2015-16		2016-17		2017-18		2018-19	
		Gross Block as on 01.04.2014	Depreciation Amount	Gross Block as on 01.04.2015	Depreciation Amount	Gross Block as on 01.04.2016	Depreciation Amount	Gross Block as on 01.04.2017	Depreciation Amount	Gross Block as on 01.04.2018	Depreciation Amount
Freehold Land	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leasehold Land	3.34%	26763.96	893.92	26345.73	879.95	26383.54	881.21	26383.54	881.21	26383.54	881.21
Land-right of use	3.34%	588.27	19.65	1183.21	39.52	1183.21	39.52	1192.24	39.82	1192.24	39.82
Roads, bridges, culverts & helipad	3.34%	7456.61	249.05	9606.09	320.84	12985.84	433.73	16136.08	538.95	16935.50	565.65
Main Plant Buildings	3.34%	276.33	9.23	285.34	9.53	3395.47	113.41	4576.67	152.86	4576.67	152.86
Other Buildings	3.34%	8094.65	270.36	18294.13	611.02	21877.82	730.72	24570.38	820.65	25408.23	848.63
Temporary erection	100.00%	54.26	54.26	92.63	92.63	99.93	99.93	122.88	122.88	127.18	127.18
Water supply, drainage & sewerage system	5.28%	1877.24	99.12	4484.23	236.77	5016.64	264.88	6338.84	334.69	6549.37	345.81
MGR track and signalling system	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Railway siding	5.28%	14551.76	768.33	16719.95	882.81	18016.14	951.25	20648.78	1090.26	20822.31	1099.42
Earth dam reservoir	5.28%	556.15	29.36	560.02	29.57	560.02	29.57	560.02	29.57	560.02	29.57
Plant and machinery	5.28%	512620.63	27066.37	541400.02	28585.92	560020.36	29569.07	558234.42	29474.78	557958.11	29460.19
Furniture and fixtures	6.33%	1099.12	69.57	1439.65	91.13	1823.37	115.42	3263.42	206.57	3380.86	214.01
Other Office Equipments	6.33%	189.72	12.01	225.81	14.29	248.04	15.70	245.43	15.54	234.33	14.83
EDP, WP machines & SATCOM equipment	15.00%	318.04	47.71	326.06	48.91	325.46	48.82	265.84	39.88	186.60	27.99
Vehicles including speedboats	9.50%	7.67	0.73	7.77	0.74	7.77	0.74	1.72	0.16	1.72	0.16
Construction equipment	5.28%	789.89	41.71	996.43	52.61	1500.00	79.20	1500.00	79.20	1500.00	79.20
Electrical installations	5.28%	9661.64	510.13	11916.61	629.20	12357.92	652.50	12587.91	664.64	12637.73	667.27
Communication equipment	6.33%	171.15	10.83	191.22	12.10	225.95	14.30	226.47	14.34	226.47	14.34
Hospital equipment	5.28%	4.48	0.24	7.42	0.39	43.90	2.32	43.75	2.31	43.75	2.31
Laboratory and workshop equipment	5.28%	310.56	16.40	508.05	26.82	505.60	26.70	505.54	26.69	505.50	26.69
Leased assets - Vehicles	9.50%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Software	15.00%	51.21	7.68	55.56	8.33	55.56	8.33	55.56	8.33	55.56	8.33
Assets Not Owned By company	5.28%	2571.60	135.78	3623.83	191.34	0.00	0.00	0.00	0.00	0.00	0.00
Unserviceable/Obsolete assets	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	6414.97	338.71	7929.24	418.66
Spares (IndAs)	5.28%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>		<b>588014.94</b>	<b>30312.44</b>	<b>638269.75</b>	<b>32764.43</b>	<b>666632.53</b>	<b>34077.31</b>	<b>683874.46</b>	<b>34882.04</b>	<b>687214.93</b>	<b>35024.13</b>
<b>Weighted Average Rate of Depreciation</b>		<b>5.1437%</b>		<b>5.1224%</b>		<b>5.1062%</b>		<b>5.0986%</b>		<b>5.0965%</b>	

