CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 221/GT/2020

Coram:

Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: 14th April, 2024

In the matter of

Petition for truing up of the annual fixed charges in respect of the Badarpur Thermal Power Station (705 MW) for the period 2014-19.

And

In the matter of

NTPC Limited,
NTPC Bhawan,
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003. **.... Petitioner**

Vs

1. BSES Rajdhani Power Limited,
   BSES Bhawan, Nehru Place,
   New Delhi – 110019

2. BSES Yamuna Power Limited,
   Shakti Kiran Building,
   Karkardooma, Delhi – 110092

3. Tata Power Delhi Distribution Limited,
   Grid Sub-station Building,
   Hudson Lines, Kingsway Camp
   New Delhi - 110009.

4. New Delhi Municipal Council,
   Palika Kendra Building,
   Opposite Jantar Mantar, Parliament Street,
   New Delhi – 110001

5. Military Engineering Services,
Delhi Cantonment, New Delhi - 110010 **..Respondents**

Parties Present:

Shri Arjun Agarwal, Advocate, NTPC
Shri Parimal Piyush, NTPC
Shri Shiv Bhavan, NTPC
Shri Siddharth Pradhan, NTPC
Shri Rahul Kinra, Advocate, BRPL & BYPL
Shri Aditya Ajay, Advocate, BRPL & BYPL
Ms. Jaya, Advocate, BYPL

ORDER

This Petition has been filed by the Petitioner, NTPC Limited, for the truing-up the tariff of Badarpur Thermal Power Station (705 MW) (in short, 'the generating station') for the period 2014-19, in accordance with Regulation 8 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations'). The generating station with a capacity of 705 MW comprises three units of 95 MW each and two units of 210 MW each, and the COD of the units are as under:

Unit	COD	Installed Capacity (MW)
Unit - I	26.7.1973	95.00
Unit - II	5.8.1974	95.00
Unit - III	29.3.1975	95.00
Unit - IV	2.12.1978	210.00
Unit - V	25.12.1981	210.00
Total		**705.00**

2. The Commission, vide its order dated 12.4.2017 in Petition No. 288/GT/2014, had approved the capital cost and the annual fixed charges of the generating station for the period 2014-19 as under:

Capital Cost allowed

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	Opening Capital Cost	50172.13	56548.42	59854.46	60302.74	60622.52
B	Admitted Projected additional capital expenditure*	6376.29	3306.04	448.29	319.78	291.78

		2014-15	2015-16	2016-17	2017-18	2018-19
C	Closing Capital Cost (A+B)	**56548.42**	**59854.46**	**60302.74**	**60622.52**	**60914.30**
D	Average Capital Cost (A+C)/2	53360.28	58201.44	60078.60	60462.63	60768.41

***Total ACE allowed on projection basis for 2014-19 was Rs.10742.18 lakh**

Annual fixed charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2833.84	3090.94	3190.63	3211.03	2747.26
Interest on Loan	101.18	170.24	69.03	0.00	0.00
Return on Equity	2137.46	2434.00	2397.61	1980.23	1455.81
Interest on Working Capital	1494.26	1587.99	1671.17	1751.88	1824.38
O&M Expenses	20899.85	22173.95	23529.95	24970.70	26503.25
Total	**27466.59**	**29457.12**	**30858.39**	**31913.84**	**32530.70**

Present Petition

3. It is pertinent to mention that the generating station was shut down/closed w.e.f. 6.10.2018, based on the directions of the DPCC. Apart from prayer of the Petitioner for truing up of the tariff of the generating station for the period 2014-19 (i.e. till 15.10.2018), the Petitioner has also sought other prayers as a result of the closure of the units (especially 95 MW) by the DPCC from time to time during the period 2014-19 and also for the recovery of sunk-in costs, consequent upon the complete shutdown of the generating station, based on the directions of the DPCC. The specific prayers made by the Petitioner are as under:

(a) Allow the additional capitalization claimed in this Petition and revise the generation tariff of BTPS for the 2014-19 tariff control period.

(b) Approve the revised tariff of BTPS for the tariff period 2014-19 as per Regulation 8 of Tariff Regulations, 2014.

(c) Allow the Petitioner to recover the additional O&M cost due to increase in employee cost as a result of Pay Revision and implementation of GST w.e.f. 01.07.2017 as an additional component in respective years.

(d) Declare that DPPC's letter dated 11.02.2016 amending NTPC's Consent to Operate dated 02.01.2014 for change of emission level from 150 mg/Nm3 to 50 mg/Nm3 is a Change in Law event in terms of Regulation 8 of the Tariff Regulations, 2015 and Clause 5.3.3 of the PPAs;

(e) Declare that from 11.02.2016 to 15.10.2018, Stage-I of BTPS was affected by Change in Law event due to which 3x95 Units of Stage-I of BTPS could not operate and

consequentially allow NTPC to recover appropriate Capacity Charges as Change in Law relief in terms of Regulation 8 of the Tariff Regulations, 2015 and Clause 5.3.3 of the PPAs;

(f) Declare that the revised conditions under the extended Consent to Operate dated 25.07.2018 constitute a Change in Law event in terms of Regulation 8 of the Tariff Regulations, 2014 and Clause 5.3.3 of the PPAs and allow NTPC to recover all costs incurred as described in the instant Petition; (including, without limitation, those consequent or incidental to the decommissioning of BTPS);

(g) Without prejudice and in the alternative to the prayer (f) above, declare that the direction to shut down and decommission BTPS, as issued by the Ministry of Power on 04.09.2018 is a Section 11 direction under Electricity Act, 2003 and accordingly grant compensation to NTPC.

(h) Allow recovery of Rs.51.29 crore as additional capitalization in 2014-15 for implementing the Main Package of R&M scheme for Units IV and V;

(i) Allow recovery of unrecovered depreciation as on 15.10.2018 from beneficiaries.

(j) Allow recovery of capital cost of Capital Spares lying at BTPS; and

(k) Pass such other and further order(s) and/or directions as this Hon'ble Commission may deem just, fit and proper in the facts and circumstances of the case and in the interest of justice.

4. Before examining the above prayers, we proceed with truing-up the tariff of the generating station for the period 2014-19, based on the actual additional capital expenditure incurred by the Petitioner, mainly under Regulation 15 of the 2014 Tariff Regulations, towards the R&M of Units-4 and 5 of 210 MW each. It is pertinent to mention that during the period 2014-19, all the units of the generating station were operating beyond their useful life of 25 years, and as such, these units were not entitled to compensation allowance in terms of the 2014 Tariff Regulations, for incurring the expenditure of a capital nature. Also, since all the units of the generating station were operating under relaxed operational norms, they were also not eligible for the Special Compensation in lieu of R&M in terms of Regulation 16 of the 2014 Tariff Regulations. As such, after 2006, the generating station was allowed need based additional capital expenditure for replacing the plant components, which were required for the efficient operation of the generating station. The Petitioner had filed Petition No. 324/2009 for approval of the R&M of Units-4 and 5 (210 MW each), and the Commission vide its order dated 12.5.2011 had approved an expenditure of Rs.741.05

crore for the CEA approved R&M schemes and for certain other schemes, not approved by the CEA.

5. In terms of the above, Regulation 8(1) of the 2014 Tariff Regulations, the Petitioner has filed the present petition for truing-up of tariff for the period from 1.4.2014 to 15.10.2018 and has claimed the following capital cost and annual fixed charges:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19 (1.4.2018 to 15.10.2018)
Opening Capital Cost	50172.13	63201.49	69866.99	71262.49	71805.96
Add: Additions during the period	12808.46	6480.44	1438.01	105.65	50.92
Less: De-capitalization during the period	6.64	6.49	476.85	49.46	15.63
Add: Discharges during the period	227.54	191.55	434.35	487.29	201.93
ACE claimed including additions, de-cap and discharges	**13029.36**	**6665.49**	**1395.50**	**543.47**	**237.22**
Closing Capital Cost	63201.49	69866.99	71262.49	71805.96	72043.18
Average Capital Cost	56686.81	66534.24	70564.74	71534.23	71924.57

Annual Fixed Charges claimed

(Rs in lakh)

	2014-15	2015-16 (1.4.2015 to 31.12.2015)	2015-16 (1.1.2016 to 31.3.2016)	2016-17	2017-18	2018-19 (1.4.2018 to 15.10.2018)
Depreciation	3010.50	3564.02	3564.02	3784.57	3827.62	3849.64
Interest on Loan	300.61	609.98	609.98	531.47	252.69	54.05
Return on Equity	2333.28	2926.75	2926.75	3165.02	3222.33	3197.00
Interest on Working Capital	10046.89	10228.52	9999.33	10159.37	10408.27	10467.70
O&M Expenses	22144.80	24217.86	24217.86	24394.39	25041.35	26228.66
Sub-total	**37836.09**	**41547.13**	**41317.94**	**42034.82**	**42752.26**	**43797.05**
Additional O&M Expenses						
Impact of Pay Revision	0.00	118.83	118.83	2562.62	2582.24	2398.31
Impact of GST	0.00	0.00	0.00	0.00	181.76	209.41
Total Annual	**37836.09**	**41665.96**	**41436.77**	**44597.44**	**45516.26**	**46404.77**

	2014-15	2015-16 (1.4.2015 to 31.12.2015)	2015-16 (1.1.2016 to 31.3.2016)	2016-17	2017-18	2018-19 (1.4.2018 to 15.10.2018)
fixed Charges claimed						

6. The Petitioner has filed certain additional information vide affidavits dated 30.6.2021 and 16.7.2021. The Petitioner, vide affidavit dated 21.4.2022, has filed the additional information after serving copies to the Respondents. The Petition was finally heard on 9.11.2022, and the Commission, after directing the Petitioner to file their written submissions, reserved its order in the matter. The Respondent TPDDL (vide affidavit dated 27.4.2021) and Respondents BRPL & BYPL (by common affidavit dated 28.11.2022) have filed their replies to the Petition and the additional submissions of the Petitioner. In response, the Petitioner has also filed its rejoinders to the said replies, vide affidavits dated 26.10.2021 and 12.12.2022, respectively. However, as the order in the petition could not be passed prior to one Member of the Commission, who formed part of the Coram, demitting office, the Petition was re-listed and heard on 31.1.2024 and the Commission, after directing the Petitioner to file certain additional information, reserved its order in the petition. In response, the Petitioner has submitted the additional information vide affidavit dated 5.3.2024, after serving copy on the Respondents. Based on the submissions and the documents available on record, we proceed for truing-up the tariff of the generating station for the period from 1.4.2014 to 15.10.2018, after prudence check, as stated in the subsequent paragraphs.

Capital Cost

7. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects. Clause 3 of Regulation 9 of the 2014 Tariff Regulations provides as follows:

"9. Capital Cost:
(3) The Capital cost of an existing project shall include the following:
(a) The capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014.
(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
(c) Expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15."

8. As stated above, the Commission vide its order dated 12.4.2017 in Petition No. 288/GT/2014, had approved the annual fixed charges of the generating station for the period 2014-19, considering the opening capital cost of Rs. 50172.13 lakh (on cash basis). The same has been considered as the opening capital cost, as on 1.4.2014, in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

Additional Capital Expenditure

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

"14 (1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
(i) Un-discharged liabilities recognized to be payable at a future date;
(ii) Works deferred for execution;
(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
(v) Change in law or compliance of any existing law:
Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.
(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:
(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
(ii) Change in law or compliance of any existing law:
(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and
(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

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

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

(ii) Change in law or compliance of any existing law:

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

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

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

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

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

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

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

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

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

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

Projected additional capital expenditure allowed vide order dated 12.4.2017 in Petition No. 288/GT/2014

10. The details of the projected additional capital expenditure allowed, vide order dated 12.4.2017 in Petition No. 288/GT/2014, are summarized below:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
6376.29	3306.04	448.29	319.78	291.78	10742.17

11. The actual additional capital expenditure claimed by the Petitioner, on a cash basis, is as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	**Schemes approved by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014**							
1	Augmentation of ESP	15	3614.54	3100.62	64.46	13.54	0.00	6793.17
2	Strengthening of Conveyor Structure in CHP Area.	15	501.71	0.00	0.00	0.00	0.00	501.71
3	Closed cycle cooling water system including RO/ STP, hot water duct & CT cell refurbishment	15	278.38	1415.52	159.90	4.66	0.00	1858.46
4	Procurement of Fire Tender (2 No.)	15	71.48	0.00	0.00	0.00	0.00	71.48
5	2nd raising of Ash Dyke Phase V along with associated pipes and pump	15	1298.73	94.01	0.00	0.00	27.87	1420.61
6	Renovation of quarters of BTPS T/ship	15	699.26	2.39	0.00	0.00	0.00	701.65
7	Renovation & Extension of BTPS Dispensary.	15	126.55	0.00	8.57	0.00	0.00	135.13
8	Drainage & Sewage system upgradation of township of BTPS including rain water harvesting	15	4.70	(-) 1.20	25.26	0.00	3.06	31.82
9	Renovation of services Complex housing Bank, Post office etc.	15	53.11	2.29	0.00	0.00	0.00	55.40
10	Procurement of dozer (5 No)	15	818.71	0.00	0.00	0.00	0.00	818.71
11	Continuous Emission Monitoring System (On-line monitoring instruments in Chimney	14 (3) (ii)	0.00	89.71	4.88	0.00	0.00	94.60
12	Procurement of one (01) No. Locomotive 1350 HP	15	0.00	947.50	0.00	0.00	0.00	947.50
13	Installation of CCTV System (12 nos)	14(3)(iii)	0.00	4.52	0.00	0.00	0.00	4.52
14	Workshop Building	15	0.00	0.00	51.34	0.00	6.80	58.14
15	Renovation of stores: construction of additional store building	15	0.00	0.00	257.64	1.49	0.00	259.13
16	Hydraulic operated Arial tower wagon platform	15	0.00	0.00	21.04	0.36	0.00	21.40
17	Passenger lift in TG Hall	15	0.00	0.00	21.31	0.00	0.00	21.31
18	Strengthening of various structures in turbine & boiler Area	15	0.00	0.00	77.33	0.00	0.00	77.33
19	Air conditioning system based on screw chiller	14 (3) (ii) & 15	0.00	0.00	115.85	0.00	0.00	115.85

Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
	Sub Total (A)		**7467.19**	**5655.36**	**807.60**	**20.05**	**37.73**	**13987.93**
B	**Scheme projected in Petition No. 288/GT/2014 and liberty granted to claim in truing up**							
20	Modification in HPH & LPH Drip System in Unit IV & V (2x210 MW)	15	56.56	36.25	0.00	0.00	0.00	92.81
21	Neutral Grounding Transformers St-II	15	0.00	0.00	52.25	0.35	0.00	52.60
	Sub Total (B)		**56.56**	**36.25**	**52.25**	**0.35**	**0.00**	**145.40**
C	**Schemes approved vide order dated 12.5.2011 in Petition No.324/2009**							
22	R&M of 220 KV Switchyard	15	29.79	0.00	0.00	0.00	(-) 6.43	23.36
23	Renovation of lighting system	15	25.34	39.33	0.00	0.00	2.88	67.54
24	Labour rest rooms	15	7.75	0.00	0.00	0.00	0.00	7.75
25	Boundary wall in Township	15	1.16	0.00	0.00	0.00	0.00	1.16
26	Sodium Analyzer	15	22.05	0.00	0.00	0.00	0.00	22.05
27	Turbidity Sensor & TXR & Ind	15	21.94	0.00	0.00	0.00	0.00	21.94
28	Conductivity Analyzer	15	0.00	1.14	0.00	0.00	0.00	1.14
29	Procurement of UAT	15	0.00	0.00	248.41	0.00	0.00	248.41
	Sub Total (C)		**108.02**	**40.47**	**248.41**	**0.00**	**(-) 3.55**	**393.35**
D	**Other Schemes**							
30	Installation of Flow Measuring Device (Water Meter)	15	3.83	0.00	0.00	0.00	0.00	3.83
31	Portable Alloy Analyzer	15	0.00	17.74	0.00	0.00	0.00	17.74
32	Energy Efficient Cartridge of BFP	15	0.00	461.77	225.40	0.00	0.00	687.18
33	Effluent Quality Management System	14(3)(ii)	0.00	26.61	0.00	0.00	0.00	26.61
34	Excavator- 20 Ton Class	15	0.00	71.80	0.00	0.00	0.00	71.80
35	ABT Energy Metering System with Software	15	0.00	34.21	0.00	58.38	0.00	92.59
36	Inflatable Jack 40T to 50 T	15	0.00	0.00	3.42	0.00	0.00	3.42
37	Battery operated Truck	15	0.00	0.00	0.00	0.15	0.00	0.15
	Sub Total (D)		**3.83**	**612.13**	**228.83**	**58.54**	**0.00**	**903.33**
E	**Procurement of MBOA**							
38	Furniture and Fixtures	15	25.14	2.53	17.25	1.83	0.00	46.76
39	Other Office Equipment	15	44.96	22.69	9.18	2.38	0.77	79.97
40	Procurement of EDP, WP Machines & SATCOM Equipment	15	114.18	91.94	71.13	20.57	15.34	313.16
41	Construction Equipment	15	43.58	0.00	0.00	0.54	0.00	44.12
42	Software	15	13.32	1.53	0.00	0.00	0.00	14.84
43	Hospital Equipment	15	9.44	13.92	0.00	1.34	0.00	24.70
44	Procurement of T&P Items	15	0.00	2.20	0.00	0.00	0.00	2.20

Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
45	Procurement of Vehicles	15	0.00	0.16	0.00	0.00	0.00	0.16
46	Procurement of Communication Equipment	15	0.00	1.26	1.05	0.04	0.00	2.35
47	Procurement of Firewall, Antivirus, Antispam	15	0.00	0.00	2.33	0.00	0.00	2.33
48	Procurement of Electrical Installations	15	0.00	0.00	0.00	0.00	0.64	0.64
	Sub Total (E)		**250.62**	**136.22**	**100.93**	**26.71**	**16.74**	**531.23**
F	**Decapitalization**							
49	Decapitalization of ESP	15	(-) 5.04	(-) 4.89	0.00	0.00	0.00	(-) 9.93
50	Decapitalization of 'MBOA capitalized in 2014-19 and capitalization claimed in petition'	14(4)	(-) 0.49	(-) 1.60	(-) 7.30	(-) 0.53	(-) 15.63	(-) 25.56
51	Decapitalization of MBOA- Part of Capital Cost	14(4)	(-) 1.10	0.00	(-) 9.06	0.00	0.00	(-) 10.16
52	Decapitalization of Capital Spares- Part of Capital Cost	14(4)	0.00	0.00	(-) 81.81	(-) 48.92	0.00	(-) 130.74
53	Decapitalization of ABT System	14 (4)	0.00	0.00	(-) 15.10	0.00	0.00	(-) 15.10
54	De-capitalization of Condenser Tubes	14 (4)	0.00	0.00	(-) 353.32	0.00	0.00	(-) 353.32
55	De-capitalization of 'Procurement of UAT'	15	0.00	0.00	(-) 10.26	0.00	0.00	(-) 10.26
	Sub Total (F)		**(-) 6.64**	**(-) 6.49**	**(-) 476.85**	**(-) 49.46**	**(-) 15.63**	**(-) 555.08**
G	**Schemes put to use and capitalized in 2009-10**							
56	Main Plant Package (Boiler & Aux, TG & Aux. Electrical & C&I)	15	3.42	0.00	0.00	0.00	0.00	3.42
57	Condenser Tubes, 90:10 CU/ NI, 30 x 28 x 100 20L - 210 MW (U-5)	15	519.90	0.00	0.00	0.00	0.00	519.90
58	Generator Transformer (T4)-Unit 4	15	951.50	0.00	0.00	0.00	0.00	951.50
	Sub Total (G)		**1474.82**	**0.00**	**0.00**	**0.00**	**0.00**	**1474.82**
H	**Schemes put to use and capitalized in 2011-12**							
59	Condenser Tubes - 210 MW (U-4)	15	973.50	0.00	0.00	0.00	0.00	973.50
	Sub Total (H)		**973.50**	**0.00**	**0.00**	**0.00**	**0.00**	**973.50**
I	**Schemes put to use and capitalized in 2012-13**							
60	270 MVA, 15.75/236 kV Generator	15	950.87	0.00	0.00	0.00	0.00	950.87

Sl. No.	Head of Work /Equipment	Regulation	2014-15	2015-16	2016-17	2017-18	2018-19	Total
	Transformer							
61	220 kV Switchyard (245 kV SF6 Circuit Breaker)	15	699.28	0.00	0.00	0.00	0.00	699.28
62	R&M of station lighting of Units 4 & 5	15	55.36	0.00	0.00	0.00	0.00	55.36
63	Design, Supply, Installation testing & commissioning of lift (Goods lift)	15	55.50	0.00	0.00	0.00	0.00	55.50
	Sub Total (I)		**1761.02**	**0.00**	**0.00**	**0.00**	**0.00**	**1761.02**
J	**Schemes capitalized in 2013-14**							
64	220 kV Switchyard (245 kV SF6 Circuit Breaker)	15	618.26	0.00	0.00	0.00	0.00	618.26
65	R&M of station lighting of Units 4 and 5	15	5.43	0.00	0.00	0.00	0.00	5.43
66	Magnetic separators/ susp magnet IV & V	15	66.20	0.00	0.00	0.00	0.00	66.20
67	270 MVA, 15.75/236 KV Generator Transformer	15	23.00	0.00	0.00	0.00	0.00	23.00
	Sub Total (J)		**712.89**	**0.00**	**0.00**	**0.00**	**0.00**	**712.89**
K	**Discharges**							
68	Add: Discharge of liability corresponding to allowed/ claimed works	14(3)(vi)	76.66	191.55	434.35	487.29	201.93	1391.77
69	Liability discharged in 2013-14 corresponding to deferred schemes	14(3)(vi)	86.24	0.00	0.00	0.00	0.00	86.24
70	Liability discharged in 2014-15 corresponding to deferred schemes	14(3)(vi)	64.64	0.00	0.00	0.00	0.00	64.64
	Sub Total (K)		**227.54**	**191.55**	**434.35**	**487.29**	**201.93**	**1542.65**
	Total Additional Capital Expenditure claimed		**13029.36**	**6665.49**	**1395.50**	**543.47**	**237.22**	**21871.05**

12. The Respondent, TPDDL, has submitted that the Petitioner has approached the Commission seeking the capitalization of Rs. 51.29 crores in 2014-15, which was actually incurred during the period 2009-14, for implementing the R&M schemes related to the Main Plant Package of Units-4 and 5. It has also contended that the same should be treated as a part of the ARR for the period 2009-14 and may not be allowed for the period 2014- 19. In response, the Petitioner has submitted that it had filed Petition No. 324/2009 under Regulation 10(1) of the 2009 Tariff Regulations for in-

principle approval of the R&M and Life extension of BTPS and the Commission, vide its order dated 12.5.2011, had approved an expenditure of Rs. 74104.84 lahks towards R&M and other works required for the life extension of the Units 4 and 5, during the period 2009-14, in terms of Clause (1) of Regulation 10 of the 2009 Tariff Regulations, observing that the same is considered reasonable. The Petitioner has further submitted that it had filed Petition No. 332/2009 seeking approval of tariff of the generating station for the period 2009-14 under the 2009 Tariff Regulations, and had placed on record vide affidavit dated 22.3.2010, the Detailed Project Report (DPR) of the R&M packages proposed to be implemented for the Units 4 and 5, based on which tariff was determined vide order dated 23.5.2012. However, on the issue of R&M, it was observed by the Commission that the R&M works undertaken by the Petitioner are being implemented in a phased manner, with certain works being implemented after 31.3.2014, i.e., during the subsequent tariff period 2014-19. In this regard, the relevant portion of the Commission's order dated 23.5.201, is extracted below.

> *"29. We are not convinced with the submissions of petitioner. Since, the benefits of R&M would be passed on to the beneficiaries only after completion of R&M of Main Plant package during the year 2014-15 of the next tariff period, the expenditure of Rs. 41231 lakh projected to be incurred for R&M of main plant package could only be considered in the next tariff period. Similarly, the actual expenditure of Rs. 1474 lakh pertaining to R&M of the main plant package incurred during 2009-10 has also not been allowed by this order, and the said expenditure would be considered during the next tariff period with the passing of the benefits of R&M to beneficiaries. In view of this, the corresponding de-capitalization has also been ignored."*

13. In view of the above, the submission of the Respondents is not acceptable. The reconciliation of additional capital expenditure claimed by the Petitioner from the audited books of accounts is as under:

Rs.in lakh

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Closing gross block as per audited books	51684.70	60810.65	38622.46	38893.11	38543.51
Less: Opening gross block as per audited books	41952.14	51684.70	35574.71	38622.46	38893.11

Additional capital expenditure as per audited books	9732.56	9125.95	3047.75	270.65	(-) 349.60
Less: Additional capital expenditure pertaining to other stages	0.00	0.00	0.00	0.00	0.00
Additional capital expenditure for the generating station	9732.56	9125.95	3047.75	270.65	(-) 349.60
Less: IND AS adjustment	0.00	0.00	1080.91	114.63	104.30
Additional capital expenditure as per IGAAP for the generating station	9732.56	9125.95	1966.84	156.01	-453.90
Less: Exclusions	1560.57	1410.54	868.35	93.51	-494.87
Additional capital expenditure claimed as per books of accounts (on accrual basis)	8172.00	7715.41	1098.48	62.51	40.97
Add: R&M scheme capitalised in 2009-14, but claimed in 2014-19	5129.25	0.00	0.00	0.00	0.00
Additional capital expenditure claimed (on accrual basis)	13301.25	7715.41	1098.48	62.51	40.97
Less: Un-discharged liabilities included above	499.43	1241.47	137.33	6.32	5.69
Additional capital expenditure claimed (on cash basis)	12801.82	6473.95	961.15	56.18	35.29
Add: Discharges of liabilities	227.54	191.55	434.35	487.29	201.93
Net additional capital expenditure claimed including discharges (on cash basis)	**13029.36**	**6665.49**	**1395.50**	**543.47**	**237.22**

14. Based on the submissions and documents on the record and on prudence check, the claim of the Petitioner for additional capital expenditure for the period 2014-19 is examined and allowed as under:

A. Schemes approved by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014.

Augmentation of ESP

15. The year-wise break-up of the actual expenditure claimed by the Petitioner under Regulation 15 of the 2014 Tariff Regulations is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total

3614.54	3100.62	64.46	13.54	0.00	6793.17*

**cash basis, Gross expenditure on an accrual basis is Rs.7610.39 lakh*

16. In justification of the above claim being more than the amount approved by the Commission on a projected basis against the said work, the Petitioner has submitted the following:

> *"It is submitted that the scheme of Augmentation of ESP was allowed by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014. The completed value of scheme is Rs. 7343 lakh against approved value of Rs 3823 lakh (without considering decapitalization). It is submitted that the Petitioner vide Petition No. 288/GT/2014 had projected an amount of Rs 6833 lakh towards R&M of ESP projected to be capitalized in 2014-15 & 2015-16. The Commission vide para 22 of order dated 12.4.2017 in Petition No. 288/GT/2014 was pleased to approve the job of Augmentation of ESP but the capital cost was restricted to CEA approved cost of Rs 3823 lakh. The Commission further directed to submit the reasons for increase in cost along with letter of award. In this regard, it is submitted that the Commission had approved the scheme vide order dated 12.5.2011 with approved cost of Rs. 38.23 Cr, which was based on estimation of 2007-08 price level. The package was awarded in March 2011 at Rs 53.5 Crore. Later, the site conditions necessitated modifications in the Ducts, which was added to the scope of work with implication of Rs 4.35 crore. Price escalations of Rs 7.65 Crore within the scope of contract was also paid. The completed value also includes capitalization of Rs 777 lakh towards IDC, which was not included in award value. The work related to ESP of unit#4 & Unit#5 has been completed and ESPs have been put in use".*

17. In consideration of the above justification and the documents furnished in support of the claim and considering the fact that the projected expenditure of Rs.38.23 crore on "Augmentation of ESP" had been approved based on the 2007-08 price level, the actual expenditure claimed by the Petitioner is allowed on prudence check, under Regulation 15 of the 2014 Tariff Regulations. The decapitalization of the old ESP parts replaced during the augmentation of ESP has been considered separately under the heading 'Decapitalization'.

Strengthening of Conveyor Structure in CHP Area

18. The year-wise breakup of the actual expenditure as claimed by the Petitioner under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
501.71	0.00	0.00	0.00	0.00	501.71*

**cash basis, Gross expenditure on an accrual basis is Rs. 525.62 lakh*

19. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.492.55 lakh, allowed for the said work, the Petitioner has submitted as under:

> *"Scheme allowed by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014. The difference between actual capitalization and allowed value is due to the notional de-capitalization deducted".*

20. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the net expenditure of Rs.492.55 lakh under Regulation 15 of the 2014 Tariff Regulations. Considering that the scheme was allowed by the Commission and that the variation in the actual expenditure as against the allowed expenditure is considered reasonable, the expenditure claimed is allowed. Decapitalization of the old parts replaced during the "Strengthening of Conveyor Structure" has been considered separately under the heading "Decapitalization"/" Assumed deletion".

Closed cycle cooling water system including RO/ STP, hot water duct & CT cell refurbishment:

21. The year-wise break-up of the actual expenditure claimed by the Petitioner, under Regulation 15, for the said item/asset is as under:

(in Rs. lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
278.38	1415.52	159.90	4.66	0.00	1858.46*

**cash basis, Gross expenditure on an accrual basis is Rs 2051.34 lakh*

22. In justification for incurring the actual expenditure, which is higher than the amount approved by the Commission on a projected basis against the subject work, the Petitioner has submitted as under:

> *"Scheme allowed by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014. The total capitalized value of job during 2014-19 period is Rs 1978 lakh against approved value of Rs 1899.55 lakh and there is minor variation of approximately 4%."*

23. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, allowed the projected expenditure of Rs. 1899.55 lakh under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the variation in the actual expenditure as against the allowed expenditure is considered reasonable, the expenditure claimed is allowed.

Procurement of Fire Tender (2 Nos.)

24. The year-wise breakup of the actual expenditure as claimed by the Petitioner under Regulation 15 for the said asset is as under:

(Rs in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
71.48	0.00	0.00	0.00	0.00	71.48*

**cash basis, Gross expenditure on an accrual basis is Rs 78.05 lakh*

25. In justification for incurring the actual expenditure, which is more than the projected expenditure allowed by the Commission, the Petitioner has submitted as under:

> *"The Commission had allowed capitalization of Rs.73.62 lakh along with notional decapitalization of Rs.7.36 lakh towards the scheme of procurement of fire tender vide order dated 12.4.2017 in Petition No. 288/GT/2014. There is minor variation in actual capitalization of the job."*

26. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014 had approved the projected expenditure of Rs.66.26 lakh (Rs.73.62 lakh – Rs.7.36 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the procurement of 'fire tender' was allowed by the Commission and that the variation in the actual expenditure as against the allowed expenditure is reasonable, the expenditure claimed is allowed. The decapitalization of the old fire tenders has been considered separately under the heading "Decapitalization"/ "Assumed deletion".

2nd raising of Ash Dyke Phase along with associated pipes and pump

27. The year-wise break-up of the actual expenditure claimed by the Petitioner for the said asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
1298.73	94.01	0.00	0.00	27.87	1420.61

**cash basis, Gross expenditure on an accrual basis is Rs.1492.43 lakh*

28. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.1322.93 lakh approved by the Commission for the said work, the Petitioner has submitted as under**:**

> *"Scheme allowed by the Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014. The job has been capitalized in 2014-15 & 2015-16 and total capitalization is Rs 1492 lakh. There is minor variation in actual capitalization of the job due to the fact that at the time of projection, the Petitioner inadvertently missed to include value of pipelines & pumps in the projected capitalization as the work of associated pipeline was separately awarded."*

29. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, allowed the projected expenditure of Rs1322.93 lakh under Regulation 15 of the 2014 Tariff Regulations. Considering that the scheme was allowed by the Commission and taking into account the justification for the increase in the actual expenditure, which in our view is reasonable, the actual expenditure claimed is allowed.

Renovation of quarters of BTPS Township

30. The year-wise breakup of the actual expenditure claimed by the Petitioner for the said asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
699.26	2.39	0.00	0.00	0.00	701.65

**cash basis, Accrual expenditure on a gross basis is Rs.757.10 lakh*

31. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.674.29 lakh approved by the Commission for the said work, the Petitioner has submitted as follows:

"The Commission had allowed capitalization of Rs.748.54 lakh along with notional decapitalization of Rs.74.85 lakh towards the scheme of renovation of quarters of BTPS township vide order dated 12.4.2017 in Petition No. 288/GT/2014. The total capitalization in 2014-19 period is Rs.757 lakh and there is minor variation in actual capitalization of the job against the value allowed by the Commission."

32. It is observed that Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the projected expenditure of Rs.674.69 lakh (Rs.748.54 lakh – Rs.74.85 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the facts that the scheme was allowed by the Commission and that the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure claimed is allowed for the purpose of tariff. The decapitalization of the old assets replaced during "Renovation of quarters of BTPS Township" has been considered separately under the heading "Decapitalization/ Assumed deletion".

Renovation & Extension of BTPS Dispensary

33. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
126.55	0.00	8.57	0.00	0.00	135.13

**cash basis, Gross expenditure on an accrual basis is Rs.144.92 lakh*

34. In justification for incurring the actual expenditure, which is at variance with the projected expenditure of Rs.110.89 lakh approved by the Commission for the said work, the Petitioner has submitted as follows:

"The Commission had allowed capitalization of Rs.145 lakh along with notional decapitalization of Rs.12.32 lakh towards the scheme of renovation & extension of BTPS Dispensary vide order dated 12.4.2017 in Petition No. 288/GT/2014. The completed value of scheme during 2014-19 tariff period is Rs 144 lakh against approved value of Rs 123 lakh. The variation in completed value is due to change in structural layout of radiology room and change in size of Operation Theatre Block as the same has been recommended by CMO and further there was a requirement for Electrical Panel room to charge the New Hospital Block and the other lifesaving appliances as the same has been recommended by Electrical In-charge."

35. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the projected expenditure of Rs 110.89 lakh (Rs.123.20 lakh- Rs.12.32 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission, the justification furnished by the Petitioner for the increase in expenditure and that the variation in the actual expenditure incurred, as against the allowed expenditure, is reasonable, the actual expenditure claimed is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

***Drainage & Sewage system upgradation of the township of BTPS, including rain water harvesting*;**

36. The year-wise breakup of the actual expenditure as claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
4.70	(-) 1.20	25.26	0.00	3.06	31.82

**cash basis, Gross expenditure on an accrual basis is Rs. 34.04 lakh*

37. In justification for the actual expenditure incurred, the Petitioner has submitted as follows:

> *"The Commission had allowed capitalization of Rs.50 lakh along with notional decapitalization of Rs.5 lakh in 2016-17 towards the job of 'Drainage & Sewage system upgradation of township of BTPS including rain water harvesting' vide order dated 12.4.2017 in Petition No. 288/GT/2014. The total capitalization towards this job during 2014-19 period is Rs 34 lakh."*

38. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the projected expenditure of Rs.45 lakh under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the actual expenditure incurred is within the expenditure allowed earlier, the actual expenditure claimed is allowed. The

decapitalization of the old assets replaced has been considered separately under the heading 'Decapitalization /Assumed deletion'.

Renovation of services Complex housing Bank, Post office, etc.

39. The year-wise breakup of the actual expenditure as claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
53.11	2.29	0.00	0.00	0.00	55.40

**cash basis, Gross expenditure on an accrual basis is Rs. 65.12 lakh*

40. As regards the actual expenditure incurred, the Petitioner has submitted as under:

> *"The Commission had allowed capitalization of Rs 56.69 lakh along with notional decapitalization of Rs 5.37 lakh towards the scheme of renovation of services complex housing, bank, post office etc., vide order dated 12.4.2017 in Petition No. 288/GT/2014. The completed value of scheme during 2014-19 period is Rs 65 lakh against approved value of Rs 57 lakh. The variation in completed value of the job is due to the free issue materials included in actual capitalization which the petitioner inadvertently missed to include at the time of projection."*

41. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the projected expenditure of Rs.51.02 lakh (Rs.56.69 lakh-Rs.5.67 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure claimed is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Procurement of dozer (5 Nos)

42. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
818.71	0.00	0.00	0.00	0.00	818.71

**cash basis, Gross expenditure on an accrual basis is Rs. 895.46 lakh*

43. In justification for the actual expenditure incurred, which is more than the projected expenditure of Rs.806.40 lakh approved for the said asset, the Petitioner has submitted as under:

> *"The Commission had allowed capitalization of Rs 896 lakh along with notional decapitalization of Rs. 89.60 lakh in 2015-16 towards the scheme of procurement of 5 no BEML dozers vide order dated 12.4.2017 in Petition No. 288/GT/2014. The job has been completed and capitalized in the year 2014-15."*

44. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014 had allowed the projected expenditure of Rs.806.40 lakh (Rs. 896 lakh - Rs.89.60 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the facts that the scheme was allowed by the Commission and that the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure incurred is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Continuous Emission Monitoring System (On-line monitoring instruments in Chimney):

45. The year-wise breakup of the actual expenditure as claimed by the Petitioner for the asset under Regulation 14(3)(ii) is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	89.71	4.88	0.00	0.00	94.60

**cash basis, Gross expenditure on an accrual basis is Rs. 102.45 lakh*

46. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.93.99 lakh approved by the Commission, the Petitioner has submitted as under:

> *"The job was allowed by the Commission vide S.No. 5.2 at page 31 of order dated 12.4.2017 in Petition No. 288/GT/2014. It is submitted completed value of job during 2014-*

19 period is Rs 102 lakh against approved value of Rs 93.99 lakh and there is marginal variation in the completed value of the job."

47. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, allowed the projected expenditure of Rs.93.99 lakh under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure claimed is allowed.

Procurement of one (01) No. Locomotive 1350 HP

48. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	947.50	0.00	0.00	0.00	947.50

**cash basis, Gross expenditure on an accrual basis is Rs. 947.50 lakh*

49. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.853.20 lakh for the said asset, the Petitioner has submitted as under:

"It is submitted that the Commission vide S.No. 6 at page 32 of order dated 12.4.2017 in Petition No. 288/GT/2014 had allowed Rs 948 lakh (excluding decapitalization of Rs.94.80 lakh) towards procurement of Locomotive. The job has been completed and capitalized**."**

50. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014 had allowed the projected expenditure of Rs.853.20 lakh (Rs.948 lakh - Rs.94.80 lakh) under Regulation 15 of the 2014 Tariff Regulations. In view of the fact that the scheme was allowed by the Commission and that the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure claimed is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Installation of CCTV System (12 nos)

51. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 14(3)(iii) is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	4.52	0.00	0.00	0.00	4.52

**cash basis, Gross expenditure on an accrual basis is Rs. 5.37 lakh*

52. With regard to the actual expenditure incurred, the Petitioner submitted as under:

> *"The job was allowed by the Commission vide S.No. 8 at page 32 of order dated 12.4.2017 in Petition No. 288/GT/2014. The completed value of job during 2014-19 period is Rs 5.37 lakh against approved value of Rs 8.01 lakh."*

53. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had allowed the projected expenditure of Rs.8.01 lakh under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the actual expenditure incurred is within the expenditure allowed on the projected basis, the actual expenditure claimed is allowed.

Workshop Building

54. The year-wise break-up of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	51.34	0.00	6.80	58.14

**cash basis, Gross expenditure on an accrual basis is Rs. 61.58 lakh*

55. In justification for incurring the actual expenditure, which is more than the projected expenditure of Rs.49.79 lakh approved by the Commission for the asset, the Petitioner has submitted as under:

"The scheme was allowed by the Commission vide point no 3.2 of table at page no 31 of order dated 12.4.2017 in Petition No. 288/GT/2014. The Commission had allowed Rs 55.32 Lakh (excluding notional decapitalization) towards this scheme. The job has been completed and capitalized in 2016-17."

56. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014 had allowed the projected expenditure of Rs.49.79 lakh (Rs.55.32 lakh-Rs.5.53 lakh) under Regulation 15 of the 2014 Tariff Regulations. Considering that the scheme was allowed by the Commission and the variation in the actual expenditure incurred as against the allowed expenditure is reasonable, the actual expenditure claimed is allowed for the purpose of tariff. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Renovation of Stores: Construction of additional store building

57. The year-wise break-up of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	257.64	1.49	0.00	259.13

**cash basis, Gross expenditure on an accrual basis is Rs. 271.22 lakh*

58. In justification for the actual expenditure incurred, which is more than the projected expenditure of Rs.148.50 lakh approved by the Commission for the asset, the Petitioner has submitted as under:

"It is submitted that against projection of Rs 165 lakh towards this scheme, Rs 148.50 lakh was approved by the Commission vide point no 3.3 of table at page no 31 after deducting the notional decapitalization. The variation of Rs 94 lakh (Rs 267.58 lakh - Rs 165 lakh) is because of free issue material (Rs 80 lakh) and IDC capitalized under this package which the petitioner inadvertently missed to include at the time of projection."

59. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/ GT/2014 had allowed the projected expenditure of Rs.148.50 lakh (Rs.165 lakh-Rs.16.50 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and keeping in view the

justification furnished by the Petitioner for the increase in the expenditure, the actual expenditure claimed is allowed for the purpose of tariff. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/ Assumed deletion".

Hydraulic operated Arial Tower wagon platform.

60. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	21.04	0.36	0.00	21.40

**cash basis, Gross expenditure on accrual basis is Rs. 26.93 lakh*

61. As regards the actual expenditure incurred, the Petitioner has submitted as under:

> *"The scheme was allowed by the Commission vide point no 9.1 of table at page no 32. It is submitted that against allowed value of Rs 18 lakh, actual capitalization is Rs 26.93 lakh towards this job during 2014-19 period."*

62. The Petitioner has submitted a copy of the purchase order placed for the Procurement of a Hydraulic operated Arial Tower Wagon platform. Considering that the procurement of said asset was allowed earlier and that the expenditure claimed represents the actual expenditure incurred, as per the purchase order, the expenditure claimed is allowed.

Passenger lift in TG Hall

63. The year-wise breakup of the actual expenditure as claimed by the Petitioner for the subject asset is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	21.31	0.00	0.00	21.31

**cash basis, Gross expenditure on an accrual basis is Rs. 26.61 lakh*

64. In justification for the actual expenditure incurred, the Petitioner has submitted that the *'scheme was allowed by the Commission vide point no 9.3 of table at page no 32."*

65. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/GT/2014 had allowed the projected expenditure of Rs.28.80 lakh (Rs.32 lakh-Rs.3.20 lakh) under Regulation 15 of the 2014 Tariff Regulations. In consideration of the fact that the scheme was allowed by the Commission and that the actual expenditure incurred is within the expenditure allowed earlier, the actual expenditure claimed is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Strengthening of various structures in the Turbine & Boiler Area

66. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	77.33	0.00	0.00	77.33

**cash basis, Gross expenditure on an accrual basis is Rs. 77.33 lakh*

67. In justification for the actual expenditure incurred, the Petitioner submitted that 'the *scheme was allowed by the Commission vide point no 9.5 of table at page no 32."*

68. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, allowed the projected expenditure of Rs.80 lakh under Regulation 15 of the 2014 Tariff Regulations. Since the scheme was allowed by the Commission and the actual expenditure incurred is within the expenditure allowed earlier, the actual expenditure claimed is allowed.

Air conditioning system based on screw chiller.

69. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 14(3)(ii) read with Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	115.85	0.00	0.00	115.85

**cash basis, Gross expenditure on an accrual basis is Rs. 133.08 lakh*

70. In justification for the actual expenditure incurred, the Petitioner submitted as that *'the scheme was allowed by the Commission vide point no 10.1 of table at page no 32."*

71. It is observed that the Commission vide its order dated 12.4.2017 in Petition No. 288/GT/2014 had allowed the projected expenditure of Rs.171.90 lakh (Rs.191 lakh- Rs.19.10 lakh) under Regulation 14 (3)(ii) read with Regulation 15 of the 2014 Tariff Regulations. In view of the fact that the scheme was allowed by the Commission and that the actual expenditure incurred is within the expenditure allowed earlier, the actual expenditure claimed is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Schemes wherein liberty was granted by Commission's order dated 12.4.2017 in Petition No 288/GT/2014

Modification in HPH & LPH Drip System in Unit IV & V (2x210 MW)

72. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
56.56	36.25	0.00	0.00	0.00	92.81

**cash basis, Gross expenditure on accrual basis is Rs. 92.81 lakh*

73. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"Capitalization of Rs 57 lakh was projected against the scheme of modification of HPH & LPH Drip system in Petition No. 288/GT/2014 filed for approval of tariff of BTPS for 2014-19 tariff period. However, the Commission disallowed the same and granted liberty to claim the same at the time of truing up. This scheme is part of Main Plant R&M package approved by the Commission vide order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS'."*

74. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had granted liberty to the Petitioner to claim the actual expenditure incurred at the time of truing-up. Considering the fact that the scheme was necessary for the efficient operation of the 210 MW units, which had outlived their useful life, and keeping in view that the expenditure claimed formed part of the CEA-approved Main Plant R&M package, as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009, the additional capital expenditure claimed by the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization"/Assumed deletion".

Neutral Grounding Transformers Stage-II

75. The year-wise breakup of the actual expenditure claimed by the Petitioner for the said asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	52.25	0.35	0.00	52.60

**cash basis, Gross expenditure on an accrual basis is Rs. 76.71 lakh*

76. In justification for the actual expenditure incurred for the said scheme, the Petitioner has submitted as under:

> *"The scheme of Neutral grounding system is part of CEA approved R&M schemes approved by CEA vide point no 12 of Annexure IC of CEA letter dated 22.02.2008. These schemes were allowed by the Commission vide para 19(a) of order dated 12.5.2011 in Petition No. 324/2009. Installation of neutral grounding system has been completed and capitalized in the books of accounts. The capitalized value is more than the CEA approved amount of Rs 50 lakh due to the fact that CEA approval was based on NTPC letter dated 26th Oct 2007 and the scheme has been capitalized in 2016-17, after a gap of approximately 10 years."*

77. It is observed that the Commission, vide its order dated 12.4.2017 in Petition No. 288/ GT/2014, had granted liberty to the Petitioner to claim the actual expenditure incurred at the time of truing-up of tariff. Considering that the scheme was necessary for the efficient operation of 210 MW units, which had outlived their useful life, and

keeping in view that the expenditure claimed formed part of the CEA-approved Main Plant R&M package as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009, the additional capital expenditure claimed by the Petitioner is allowed.

C. Schemes approved by the Commission vide order dtd 12.5.2011 in Petition No 324/2009

R&M of 220 KV Switchyard

78. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
29.79	0.00	0.00	0.00	(-) 6.43	23.36

**cash basis, Gross expenditure on an accrual basis is Rs. 25.70 lakh*

79. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"This R&M scheme was approved by the Commission vide para 19(d) of order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS'. The scheme includes works of replacement of Current Transformers, Voltage Transformers, Capacitive Voltage Transformers, Surge Arresters, Circuit Breakers, Protection Relay Panel etc. in switchyard area and the job was carried out in phases. Capital expenditure claimed is towards the balance payment of works completed before 31.3.2014."*

80. Considering the necessity of the scheme for the efficient operation of the 210 MW units which had outlived their useful life, and keeping in view the expenditure claimed fromed part of the CEA-approved Main Plant R&M package, as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009, the additional capital expenditure claimed by the Petitioner is allowed. However, the negative entry of Rs.6.43 lakh has been shifted to the year 2014-15, considering the same to be a reversal of the excess amount capitalized. As such, an amount of Rs. 23.36 lakh is

allowed in the 2014-15. The decapitalization of the old assets replaced has been considered separately under the heading “Decapitalization”/Assumed deletion”.

Renovation of lighting system

81. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
25.34	39.33	0.00	0.00	2.88	67.54

**cash basis, Gross expenditure on an accrual basis is Rs. 67.54 lakh*

82. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *“The job of Renovation of lighting system was approved by the Commission vide para (e) page 12 of order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS'. Renovation of lighting system involves installation of high mast lighting, installation of distribution feeders, replacement of aged wiring, replacement of lamps etc. Capitalization in current year is towards high mast lighting & distribution feeder.”*

83. Considering the fact that the scheme was necessary for the safe and efficient operation of 210 MW units, which had outlived their useful life, and keeping in view that the expenditure claimed formed part of the CEA approved Main Plant R&M package, as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009 at an estimated expenditure of Rs.58.50 lakh (Rs.65 lakh - Rs.6.50 lakh), the additional capital expenditure claimed by the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading “Decapitalization /Assumed deletion’.

Labour rest rooms

84. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total

7.75	0.00	0.00	0.00	0.00	7.75

**cash basis, Gross expenditure on an accrual basis is Rs. 7.75 lakh*

85. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"This job is balance work of scheme which was part of plant civil works approved by the Commission vide para (b) page 17 of order dated 12.5.2011 in Petition No. 324/2009 (Approval of R&M of BTPS). Part works of this scheme were capitalized and admitted by the Commission in 2009-14 period and balance jobs have been capitalized in 2014-15."*

86. Considering that the claimed expenditure is part of an R&M package already approved by the Commission vide order dated 12.5.2011 in Petition No. 324/2009, the claim is allowed under Regulation 15 of the 2014 Tariff Regulations for the benefit of employees working at the generating station. The decapitalization of the old assets replaced has been considered separately under the heading Decapitalization/Assumed deletion.

Boundary wall in Township

87. The year wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
1.16	0.00	0.00	0.00	0.00	1.16

**cash basis, Gross expenditure on an accrual basis is Rs. 1.16 lakh*

88. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"The Commission had approved various Township Civil Packages vide order dated 12.5.2011 in Petition No. 324/2009 (Approval of R&M of BTPS) (Para B(c), Page 18). Major portion of Work of Boundary Wall in Township (part of approved Township Civil Package) has been completed and capitalized in 2009-14 and balance job was completed in 2014-15."*

89. Considering the fact that the expenditure claimed formed part of the R&M package as approved by the Commission vide its order dated 12.5.2011 in Petition No.

324/2009, the claim is allowed for the benefit of employees working at the generating station.

Sodium Analyzer, Turbidity Sensor & TXR & IND, Conductivity Analyzer

90. The year-wise breakup of the actual expenditure claimed by the Petitioner for the assets under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
22.05	0.00	0.00	0.00	0.00	**22.05**
21.94	0.00	0.00	0.00	0.00	**21.94**
0.00	1.14	0.00	0.00	0.00	**1.14**
43.99	1.14	0.00	0.00	0.00	**45.13**

**cash basis, Gross expenditure on an accrual basis is Rs. 22.05 lakh for Sodium analyzer, Rs. 23.70 lakh for Turbidity Sensor & TXR & IND and Rs. 1.14 lakh for Conductivity analyzer*

91. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"This scheme is part of 'Replacement of online instruments in Water Treatment Plant' approved by the Commission vide para (h) page no 13 of order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS'."*

92. It is observed that the Commission vide it order dated 12.5.2011 in Petition No. 324/ 2009 had allowed an expenditure of Rs.15.70 lakh (Rs.17.44 lakh – Rs.1.74 lakh), net of de-capitalization amount of Rs.1.74 lakh towards the "*Replacement of on-line instruments in the water treatment plant*". It is observed that total claim on the Procurement of these assets have exceeded the amount allowed on projected basis. However, considering the fact that these assets were necessary for the efficient operation of 210 MW units, which outlived their useful life, and keeping in view that the expenditure claimed formed part of the CEA approved Main Plant R&M package, as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009, the actual additional capital expenditure claimed by the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading 'Decapitalization/Assumed deletion'.

Procurement of UAT

93. The year wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
0.00	0.00	248.41	0.00	0.00	248.41

**cash basis, Gross expenditure on an accrual basis is Rs. 260.33 lakh*

94. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"The scheme of replacement of UAT is part of CEA approved R&M schemes approved by CEA vide point no 2 of Annexure IC of CEA letter dated 22.02.2008. These schemes were allowed by the Commission vide para 19(a) of order dated 12.5.2011 in Petition No. 324/2009. Replacement of UATs has been completed and capitalized in the books of accounts. The capitalized value is more than the CEA approved amount of Rs 160 lakh due to the fact that CEA approval was based on NTPC letter dated 26th Oct 2007 and the scheme has been capitalized in 2016-17, after a gap of approximately 10 years."*

95. Considering that the asset was necessary for the efficient operation of 210 MW units which outlived their useful life and keeping in view that the expenditure claimed formed part of the CEA approved Main Plant R&M package, as approved by the Commission vide its order dated 12.5.2011 in Petition No. 324/2009, the actual additional capital expenditure claimed by the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/Assumed deletion'.

D. <u>Other Schemes</u>

Installation of Flow Measuring Device (Water Meter)

96. The year-wise breakup of the actual expenditure, claimed by the Petitioner for the asset is as under:

(in Rs. lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Total**
3.83	0.00	0.00	0.00	0.00	3.83

**cash basis, Gross expenditure on an accrual basis is Rs. 4.24 lakh*

97. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"The Commission vide order dated 23.5.2012 in Petition No. 332/2009 (Tariff for 2009-14 Period) (Para 41, page 19) had allowed capitalization of Rs 17.5 Crore for this work in 2013-14. Since, quality of intake raw water from Agra canal is very bad due to presence of debris and other suspended material, it was difficult to identify suitable vendor for supply of the flow meter for such operational conditions and the job could not be completed in 2013-14. One flow meter has been installed and put in service."*

98. Considering t that the expenditure for the said asset was allowed by the Commission, vide its order dated 23.5.2012 in Petition No. 332/2009, under "*Schemes Other than CEA approved schemes*", the additional capital expenditure claimed by the Petitioner is allowed.

Portable Alloy Analyzer

99. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	17.74	0.00	0.00	0.00	17.74

**cash basis, Gross expenditure on an accrual basis is Rs. 17.74 lakh*

100. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"In line with Vigilance Circular, inspection of all the metallic items like boiler tubes is to be carried out at site for quickly identifying material grades being procured from various vendors and for ascertaining quality of material to be used in plant. This will help in reducing boiler tube leakages and prevent failures after maintenance."*

101. It is observed that the procurement of "Portable Alloy Analyzer" was not earlier envisaged by the Petitioner. However, considering that similar measuring instruments were allowed for the safe and efficient operation of 210 MW units, which already outlived their useful life, the additional capital expenditure claimed by the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/Assumed deletion".

Energy Efficient Cartridge of BFP

102. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	461.77	225.40	0.00	0.00	**687.18**

**cash basis, Gross expenditure on an accrual basis is Rs. 886.84 lakh*

103. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"It is submitted that Unit no. 4 & 5 of NTPC Badarpur were commissioned on 2.12.1978 and 25.12.1981. Each of the units are provided with three nos. of Boiler feed pumps. (2 Nos. in service & 1 No. in standby mode) of model- 200KHI supplied by OEM BHEL. These pumps were manufactured by M/S BHEL, in technical collaboration with M/s Sigma of Czechoslovakia, supplied about 32-34 years back. These pumps are semi-cartridge design with efficiency of 72%. Maintenance of pumps and availability of spares was difficult due to obsolesce of design. It is submitted that Normative Auxiliary Power Consumption for Badarpur TPS during 2009-14 period was 9.5% which was reduced to 8.5% vide Tariff Regulations, 2014. As no substantial investment on Renovation of Badarpur TPS was carried out, station was unable to achieve APC of 8.5%. Boiler Feed Pump being largest power consuming drive in the station, it was decided to replace cartridge of BFP with energy efficient cartridge so as to bring actual APC of Badarpur closer to Normative APC. The new cartridges are more efficient, easy to maintain & have reduced down time. The upgraded cartridge has a design efficiency of 80% with balance drum design. Three no cartridges have been replaced in the year 2015-16 and another has been replaced in 2016-17."*

104. It is observed that the procurement of "Energy Efficient Cartridge of BFP" was not earlier envisaged by the Petitioner under the R&M package approved by the Commission vide order dated 12.5.2011 in Petition No.324/2009. However, considering the vintage of 210 MW units and the non-availability of BFP spares, the additional capital expenditure claimed by the Petitioner for the asset, is considered necessary for the efficient operation of the units which outlived their useful life. Accordingly, the claim of the Petitioner is allowed. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/Assumed deletion".

Effluent Quality Management System

105. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 14(3)(ii) is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	26.61	0.00	0.00	0.00	26.61

**cash basis, Gross expenditure on an accrual basis is Rs. 34.61 lakh*

106. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"It is submitted that Effluent Quality Management System has been installed as per the direction of Central Pollution Control Board contained in letter dated 5.2.2014 for online monitoring of various effluents parameters."*

107. The Petitioner has furnished a copy of the CPCB letter dated 5.2.2014 in support of the claim. In view of this, the additional capital expenditure claimed by the Petitioner is allowed.

Excavator- 20 Ton Class

108. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	71.80	0.00	0.00	0.00	71.80

**cash basis, Gross expenditure on an accrual basis is Rs. 78.65 lakh*

109. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"BTPS gets its coal from Coal India transported through the Indian Railways network. Most of the time, the coal rakes come with big sized boulders along with coal. This creates huge problem in unloading of the rakes creating unsafe condition due to manual breaking and removing of boulders. Deployment of excavator fitted with rock breaker on WT-3 Stage-II lead to faster wagon unloading of coal rake and creating safer environment of the same."*

110. In consideration of the justification furnished by the Petitioner and on prudence check, the need-based expenditure incurred by the Petitioner for the said asset is

allowed to overcome the practical difficulties faced in real time handling of coal received at the generating station.

ABT Energy Metering System with Software

111. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	34.21	0.00	58.38	0.00	92.59

**cash basis, Gross expenditure on an accrual basis is Rs. 107.61 lakh*

112. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"ABT Energy metering system at Badarpur was installed way back in 2005. Over the period, reliability of software and meters reduced drastically and no software support was available due to faster changes in the field of software. So, to increase the reliability of system and to properly monitor the generation data in view of stringent grid discipline, new and more reliable ABT System for controlling & monitoring of Generation commercially was installed."*

113. We agree with the fact that for a generating station covered by an "Availability Based Tariff", accurate energy accounting by a reliable ABT Energy metering system is the utmost and necessary requirement. We accordingly allow the said expenditure incurred by the Petitioner for replacing the old energy meters installed during 2005 with a more reliable ABT System. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/Assumed deletion".

Inflatable Jack 40T to 50 T

114. The year wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15, is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	3.42	0.00	0.00	3.42

**cash basis, Gross expenditure on an accrual basis is Rs. 3.42 lakh*

115. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"It is submitted that to repair the boiler tubes at certain location, it is required to separate the tubes in order to access the portion of tubes to be repaired. Till date the separation was being carried out by manual chain pulley block system which is time consuming process and is not safe to operate. Inflatable jacks were procured to make this job easy and to reduce downtime of boiler."*

116. Keeping in view the vintage of the generating station and considering the fact that such assets are necessarily required for the purpose of maintenance, the expenditure claimed by the Petitioner is allowed as a replacement. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/ Assumed deletion'.

Battery operated Truck

117. The year-wise breakup of the actual expenditure claimed by the Petitioner for the asset under Regulation 15 is as under:

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	0.00	0.15	0.00	0.15

**cash basis, Gross expenditure on accrual basis is Rs. 4.21 lakh*

118. In justification for the actual expenditure incurred, the Petitioner has submitted as under:

> *"It is submitted that during operation and maintenance of equipment's, a lot of materials are required to be shifted from stores to site and from site to scrap yard. Till date, this job was being carried out with the help of manual trolleys and it takes a lot of time to shift the material on manual trolleys. For quick shifting of material and to reduce the downtime, Battery Operated Truck was procured."*

119. Keeping in view the vintage of the generating station and considering the fact that such assets are necessarily required for the purpose of maintenance, the expenditure claimed by the Petitioner is allowed as a replacement. The decapitalization of the old assets replaced has been considered separately under the heading "Decapitalization/Assumed deletion'.

E. Procurement of MBOAs

120. The year-wise expenditure claimed towards Procurement of MBOAs under Regulation 15 of the 2014 Tariff Regulations is as under:

(in Rs. lakh)

Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Procurement of T&P Items	0.00	2.20	0.00	0.00	0.00	2.20
Furniture and Fixtures	25.14	2.53	17.25	1.83	0.00	46.76
Other Office Equipment's	44.96	22.69	9.18	2.38	0.77	79.97
Procurement of EDP, WP Machines & SATCOM equipment's	114.18	91.94	71.13	20.57	15.34	313.16
Procurement of Vehicles	0.00	0.16	0.00	0.00	0.00	0.16
Procurement of Communication Equipment's	0.00	1.26	1.05	0.04	0.00	2.35
Construction Equipment's	43.58	0.00	0.00	0.54	0.00	44.12
Software	13.32	1.53	0.00	0.00	0.00	14.84
Procurement of Firewall, Antivirus, Antispam	0.00	0.00	2.33	0.00	0.00	2.33
Hospital Equipment	9.44	13.92	0.00	1.34	0.00	24.70
Procurement of Electrical Installations	0.00	0.00	0.00	0.00	0.64	0.64
Total	**250.62**	**136.22**	**100.93**	**26.71**	**16.74**	**531.23**

121. In justification for the above claims, the Petitioner has submitted as under:

> *"As all the units have crossed 35 years of useful life, replacement of MBOA items is required for effectively performing day-to-day operation and maintenance activities. Badarpur TPS is not entitled to Special Allowance and Compensation Allowance. The Commission may be pleased to allow capitalization of MBOA items."*

122. It is pertinent to mention that in terms of the 2014 Tariff Regulations, the MBOAs capitalized after the cut-off date of the generating station are not allowable during the useful life of the generating station. However, considering the fact that all units have outlived their useful life, the actual expenditure incurred towards the Procurement of new MBOAs is allowed as replacement of the old assets for the efficient operation of the generating station. The decapitalization of old assets has been considered separately under the heading "Decapitalization/Assumed Deletion".

F. Schemes put to use and capitalized in 2009-10

123. The year wise expenditure claimed against the schemes put to use in 2009-10 under Regulation 15, is as under:

(in Rs. lakh)

Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Main Plant Package (Boiler & Aux, TG & Aux. Electrical & C&I)	3.42	0.00	0.00	0.00	0.00	3.42
Condenser Tubes,90:10 CU/ NI, 30x28X10020L - 210 MW (U-5)	519.90	0.00	0.00	0.00	0.00	519.90
Generator Transformer(T4)-Unit 4	951.50	0.00	0.00	0.00	0.00	951.50
Total	**1474.82**	0.00	0.00	0.00	0.00	**1474.82**

**cash basis, Accrual expenditure on gross basis is Rs. 3.42 lakh for Main Plant Package (Boiler & Aux, TG & Aux. Electrical & C&I), Rs. 519.90 lakh for condenser tubes,90:10 CU/NI,30X28X10020L - 210 MW (U-5) and Rs. 951.50 lakh for Generator Transformer (T4) Unit 4.*

124. In justification for the above claims, the Petitioner has submitted the following:

> *"These schemes are part of 'Main Plant Package' of CEA approved R&M schemes and were approved by the Commission vide para 19(a) of order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS' . However, vide para 29 of order dated 23.5.2012 in Petition no 332/2009 filed for approval of tariff of Badarpur TPS for 2009-14 period, The Commission had decided that the said expenditure would be considered during next tariff period. These schemes were put to use and capitalized in 2009-10. In line with the CERC order dated 23.5.2012, capitalization of these scheme was kept under exclusion in Petition No. 18/GT/2013 filed for revision of tariff of Badarpur TPS for 2009-14 period after truing up and exclusion was allowed by the Commission vide order dated 16.12.2013. As directed by the Commission vide order dated 23.5.2012, the Petitioner has claimed the capitalization of these schemes in 2014-15."*

125. On scrutiny of the orders referred to by the Petitioner, we note that the Commission, while dealing with the projected/actual additional capital expenditure incurred by the Petitioner on CEA approved R&M schemes, had observed in its order dated 23.5.2012 in Petition No 332/2009 (approval of tariff of BTPS for 2009-14), the following:

> *"29. We are not convinced with the submissions of the petitioner. Since, the benefits of R&M would be passed on to the beneficiaries only after completion of R&M of Main Plant package during the year 2014-15 of the next tariff period, the expenditure of Rs.41231 lakh projected to be incurred for R&M of main plant package could only be considered in the next tariff period. Similarly, the actual expenditure of Rs.1474 lakh pertaining to R&M of the main plant package incurred during 2009-10 has also not been allowed by this order, and the said expenditure would be considered during the next tariff period with the passing of the benefits of R&M to beneficiaries. In view of this, the corresponding de-capitalization has also been ignored."*

126. It is observed that the expenditure incurred by the Petitioner during the period 2009-14 on the CEA-approved schemes for 210 MW units was deferred for the purpose of tariff by the Commission to the period 2014-19 considering that the benefits of such R&M schemes would accrue to the beneficiaries only during the period 2014-19, in terms of the improved operational norms. In this regard, the improvement in the operational norms during the period 2014-19 as compared to the operational norms during the period 2009-14 for this generating station in terms of the 2009 and the 2014 Tariff Regulations are as under:

Period	2009-14	2014-19
GSHR (kcal/kWh)	2825	2750
NAPAF (%)	82	85
AEC (%)	9.5	8.5

127. In view of the above, it can be concluded that the additional expenditure incurred by the Petitioner during the period 2009-14 (including Rs. 1474.82 lakh during 2009-10) on the CEA-approved R&M schemes, which were deferred for capitalization for the purpose of tariff, has resulted in improved operational norms during the period 2014-19. Accordingly, in consideration of the fact that the benefit of the additional expenditure incurred on the CEA-approved R&M schemes had been passed on to the beneficiaries in terms of improved operational norms, we allow the additional expenditure of Rs.1474.82 lakh claimed by the Petitioner for schemes put to use in 2009-10, under Regulation 15 of the 2014 Tariff Regulations. The decapitalization of old assets has been considered separately under the heading "Decapitalization/ Assumed Deletion".

G. Schemes put to use and capitalized in 2011-12

128. The year-wise breakup of the additional capital expenditure claimed by the Petitioner under Regulation 15 towards the "Schemes put to use and capitalized in 2011-12":

(in Rs. lakh)

2014-15	2015-16	2016-17	2017-18	2018-19	Total
973.50	0.00	0.00	0.00	0.00	973.50

**cash basis, Accrual expenditure on a gross basis is Rs. 973.50 lakh*

129. In respect of the above claim, the Petitioner has submitted the following:

"This scheme is part of 'Main Plant Package' of CEA approved R&M schemes and was approved by the Commission vide para 19(a) of order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS' . However, vide para 29 of order dated 23.05.2012 in Petition no 332/2009 filed for approval of tariff of Badarpur TPS, the Commission had decided that the said expenditure would be considered during next tariff period. This scheme was put to use and capitalized in 2011-12 and capitalization was claimed in Petition No. 18/GT/2013 filed for revision of tariff of Badarpur TPS for 2009-14 period after truing up. The Commission vide para 61 of order dated 16.12.2013 in Petition No. 18/GT/2013 revising the tariff of Badarpur TPS for 2009-14 period after truing up deferred the capitalization for the purpose of tariff and directed that this scheme shall be considered in tariff period 2014-19. As directed by the Commission vide order dated 16.12.2013, the Petitioner has claimed the capitalization of these schemes in 2014-15."

130. We have, in para 127 above, concluded that the expenditure incurred by the Petitioner during 2009-14 (including Rs. 973.50 lakh during 2011-12) on the CEA-approved R&M schemes, which were deferred for capitalization for the purpose of tariff, had resulted in improved operational norms during the period 2014-19. Accordingly, in consideration of the fact that the benefit of the said expenditure incurred on the CEA-approved R&M schemes had been passed on to the beneficiaries in terms of the improved operational norms, we allow the additional expenditure of Rs.973.50 lakh claimed by the Petitioner for schemes put to use in 2011-12, under Regulation 15 of the 2014 Tariff Regulations. The decapitalization of old assets has been considered separately under the heading "Decapitalization/Assumed Deletion'.

H. Schemes put to use and capitalized in 2012-13

131. The additional capital expenditure claimed by the Petitioner under this head, in terms of Regulation 15, is as follows:

(in Rs. lakh)

Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
270 MVA, 15.75/236 KV Generator Transformer	950.87	0.00	0.00	0.00	0.00	950.87

220 KV Switchyard (245 KV SF6 Circuit Breaker)	699.28	0.00	0.00	0.00	0.00	699.28
R&M of station lighting of unit #4 & #5.	55.36	0.00	0.00	0.00	0.00	55.36
Design supply Installation testing & Commissioning of Lift (Goods lift)	55.50	0.00	0.00	0.00	0.00	55.50
Total	**1761.01**	**0.00**	**0.00**	**0.00**	**0.00**	**1761.01**

**cash basis, Accrual expenditure on gross basis is Rs. 1035.07 lakh for 270 MVA, 15.75/236 KV Generator Transformer, Rs. 699.28 lakh for 220 KV Switchyard (245 KV SF6 Circuit Breaker), Rs. 56.86 lakh for R&M of station lighting of unit #4 & #5 and Rs. 66.96 lakh for Design supply Installation testing & Commissioning of Lift (Goods lift).*

132. In justification for the claim, the Petitioner has submitted as under:

> *"These R&M schemes were approved by the Commission vide order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS' . However, vide para 70 of order dated 16.12.2013 in Petition No. 18/GT/2013 filed for revision of tariff of Badarpur TPS for 2009-14 period after truing up, The Commission had decided that the said expenditure would be considered during next tariff period. These schemes were put to use and capitalized in 2012-13 & 2013-14. In line with the Commission's order dated 16.12.2013, the actual capitalization against all these schemes was kept under exclusion in the final true up Petition No. 302/GT/2014 and exclusion was allowed by the Commission vide order dated 30.7.2016. As directed by the Commission vide order dated 16.12.2013, the Petitioner has claimed the capitalization of these schemes in 2014-15."*

133. We have, in para 127 above, concluded that the expenditure incurred by the Petitioner during 2009-14 (including Rs. 1761.01 lakh during 2012-13) on the CEA approved R&M schemes, which were deferred by the Commission for additional capitalization for the purpose of tariff, had resulted in improved operational norms during the period 2014-19. Accordingly, in consideration of the fact that the benefit of the expenditure incurred on the CEA approved R&M schemes had been passed on to the beneficiaries in terms of improved operational norms, we allow the additional expenditure of Rs.1761.01 lakh claimed by the Petitioner for schemes put to use in in 2012-13, under Regulation 15 of the 2014 Tariff Regulations. The decapitalization of old assets has been considered separately under the heading "Decapitalization/Assumed Deletion.

I. Schemes capitalized in 2013-14

134. The additional capital expenditure claimed by the Petitioner under this head, in terms of Regulation 15, is as follows:

(in Rs. lakh)

Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
220 KV Switchyard (245 KV SF6 Circuit Breaker)	618.26	0.00	0.00	0.00	0.00	618.26
R&M of station lighting of Units 4 and 5	5.43	0.00	0.00	0.00	0.00	5.43
Magnetic separators/ susp magnet IV & V	66.20	0.00	0.00	0.00	0.00	66.20
270 MVA, 15.75/236 KV Generator Transformer	23.00	0.00	0.00	0.00	0.00	23.00
Total	**712.89**	**0.00**	**0.00**	**0.00**	**0.00**	**712.89**

**cash basis, Accrual expenditure on gross basis is Rs.728.13 lakh for 220 KV Switchyard(245 KV SF6 Circuit Breaker), Rs. 5.43 lakh for R&M of station lighting of unit #4 & #5., Rs. 66.20 lakh for Magnetic separators/ susp magnet IV & V and Rs. 23.00 lakh for 270 MVA, 15.75/236 KV Generator Transformer.*

135. In justification for the claim, the Petitioner has submitted as under:

> *"These R&M schemes were approved by the Commission vide order dated 12.5.2011 in Petition No. 324/2009 filed for 'Approval of Renovation and Modernization of Badarpur TPS' . However, vide para 70 of order dated 16.12.2013 in Petition No. 18/GT/2013 filed for revision of tariff of Badarpur TPS for 2009-14 period after truing up, The Commission had decided that the said expenditure would be considered during next tariff period. These schemes were put to use and capitalized in 2012-13 & 2013-14. In line with the Commission's order dated 16.12.2013, the actual capitalization against all these schemes was kept under exclusion in the final true up Petition No. 302/GT/2014 and exclusion was allowed by the Commission vide order dated 30.7.2016. As directed by the Commission vide order dated 16.12.2013, the Petitioner has claimed the capitalization of these schemes in 2014-15."*

136. We have, in para 127 above, concluded that the expenditure incurred by the Petitioner during 2009-14 (including Rs. 712.89 lakh in 2013-14**)** on the CEA-approved R&M schemes, which were deferred by the Commission for additional capitalization for the purpose of tariff, had resulted in improved operational norms during the period 2014-19. Accordingly, in consideration of the fact that the benefit of the expenditure incurred on the CEA-approved R&M schemes had been passed on to the beneficiaries in terms of improved operational norms, we allow the additional expenditure of Rs. 712.89 lakh as claimed by the Petitioner, for the schemes put to use in 2012-13, under

Regulation 15 of the 2014 Tariff Regulations. The decapitalization of old assets has been considered separately under the heading "Decapitalization/ Assumed Deletion.'

137. Based on the above, the total additional capital expenditure allowed for the period 2014-19 is summarized below:

(Rs. in lakh)

S. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
A	**Schemes approved by Hon'ble Commission vide order dated 12.4.2017 in Petition No. 288/GT/2014**						
1	Augmentation of ESP	3614.54	3100.62	64.46	13.54	0.00	6793.17
2	Strengthening of Conveyor Structure in CHP Area.	501.71	0.00	0.00	0.00	0.00	501.71
3	Closed cycle cooling water system including RO/ STP, hot water duct & CT cell refurbishment	278.38	1415.52	159.90	4.66	0.00	1858.46
4	Procurement of Fire Tender (2 No.)	**71.48**	**0.00**	**0.00**	**0.00**	**0.00**	**71.48**
5	2nd raising of Ash Dyke Phase V along with with associated pipes and pump	1298.73	94.01	0.00	0.00	27.87	1420.61
6	Renovation of quarters of BTPS T/ship	699.26	2.39	0.00	0.00	0.00	701.65
7	Renovation & Extension of BTPS Dispensary.	126.55	0.00	8.57	0.00	0.00	135.13
8	Drainage & Sewage system upgradation of township of BTPS including rain water harvesting	3.50	0.00	25.26	0.00	3.06	31.82
9	Renovation of services Complex housing Bank, Post office etc.	53.11	2.29	0.00	0.00	0.00	55.40
10	Procurement of dozer (5 No)	**818.71**	**0.00**	**0.00**	**0.00**	**0.00**	**818.71**
11	Continuous Emission Monitoring System (On-line monitoring instruments in Chimney)	**0.00**	**89.71**	**4.88**	**0.00**	**0.00**	**94.60**
12	Procurement of one (01) No. Locomotive 1350 HP	**0.00**	**947.50**	**0.00**	**0.00**	**0.00**	**947.50**
13	Installation of CCTV System (12 nos)	**0.00**	**4.52**	**0.00**	**0.00**	**0.00**	**4.52**
14	Workshop Building	0.00	0.00	51.34	0.00	6.80	58.14
15	Renovation of stores: construction of additional store building	0.00	0.00	257.64	1.49	0.00	259.13
16	Hydraulic operated arial tower wagon platform	**0.00**	**0.00**	**21.04**	**0.36**	**0.00**	**21.40**
17	Passenger lift in TG Hall	**0.00**	**0.00**	**21.31**	**0.00**	**0.00**	**21.31**
18	Strengthening of various structures in turbine & boiler Area	0.00	0.00	77.33	0.00	0.00	77.33
19	Air conditioning system based on screw chiller	0.00	0.00	115.85	0.00	0.00	115.85
	Sub Total (A)	**7465.99**	**5656.56**	**807.60**	**20.05**	**37.73**	**13987.93**
B	**Scheme projected in Petition No. 288/GT/2014 and liberty granted by the Commission to claim the same in final truing up**						
20	Modification in HPH & LPH Drip System in Unit IV & V (2x210 MW)	56.56	36.25	0.00	0.00	0.00	92.81
21	Neutral Grounding Transformers St-II	0.00	0.00	52.25	0.35	0.00	52.60
	Sub Total (B)	**56.56**	**36.25**	**52.25**	**0.35**	**0.00**	**145.40**
C	**Schemes approved by the Commission vide order dated 12.5.2011 in Petition No. 324/2009 filed for approval of R&M of BTPS**						
22	R&M of 220 KV Switchyard	23.36	0.00	0.00	0.00	0.00	23.36

S. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
23	Renovation of lighting system	25.34	39.33	0.00	0.00	2.88	67.54
24	Labour rest rooms	7.75	0.00	0.00	0.00	0.00	7.75
25	Boundary wall in Township	1.16	0.00	0.00	0.00	0.00	1.16
26	**Sodium Analyser**	22.05	0.00	0.00	0.00	0.00	22.05
27	**Turbidity Sensor & TXR & IND**	21.94	0.00	0.00	0.00	0.00	21.94
28	**Conductivity Analyzer**	0.00	1.14	0.00	0.00	0.00	1.14
29	**Procurement of UAT**	0.00	0.00	248.41	0.00	0.00	248.41
	Sub Total (C)	101.59	40.47	248.41	0.00	2.88	393.35
D	Other Schemes						
30	Installation of Flow Measuring Device (Water Meter)	3.83	0.00	0.00	0.00	0.00	3.83
31	Portable Alloy Analyzer	0.00	17.74	0.00	0.00	0.00	17.74
32	Energy Efficient Cartridge of BFP	0.00	461.77	225.40	0.00	0.00	687.18
33	Effluent Quality Management System	0.00	26.61	0.00	0.00	0.00	26.61
34	Excavator- 20 Ton Class	0.00	71.80	0.00	0.00	0.00	71.80
35	ABT Energy Metering System with Software	0.00	34.21	0.00	58.38	0.00	92.59
36	Inflatable Jack 40T to 50 T	0.00	0.00	3.42	0.00	0.00	3.42
37	Battery operated Truck	0.00	0.00	0.00	0.15	0.00	0.15
	Sub Total (D)	3.83	612.13	228.83	58.54	0.00	903.33
E	Procurement of MBOA						
38	Furniture and Fixtures	25.14	2.53	17.25	1.83	0.00	46.76
39	Other Office Equipment's	44.96	22.69	9.18	2.38	0.77	79.97
40	Procurement of EDP, WP Machines & SATCOM equipment's	114.18	91.94	71.13	20.57	15.34	313.16
41	Construction Equipment's	43.58	0.00	0.00	0.54	0.00	44.12
42	Software	13.32	1.53	0.00	0.00	0.00	14.84
43	Hospital Equipment's	9.44	13.92	0.00	1.34	0.00	24.70
44	Procurement of T&P Items	0.00	2.20	0.00	0.00	0.00	2.20
45	Procurement of Vehicles	0.00	0.16	0.00	0.00	0.00	0.16
46	Procurement of Communication Equipment's	0.00	1.26	1.05	0.04	0.00	2.35
47	Procurement of Firewall, Antivirus, Antispam	0.00	0.00	2.33	0.00	0.00	2.33
48	Procurement of Electrical Installations	0.00	0.00	0.00	0.00	0.64	0.64
	Sub Total (E)	250.62	136.22	100.93	26.71	16.74	531.23
F	Schemes put to use and capitalized in 2009-10						
49	Main Plant Package (Boiler & Aux., TG & Aux. Electrical & C&I)	3.42	0.00	0.00	0.00	0.00	3.42
50	Condenser Tubes,90:10 CU/NI,30X28X10020L - 210 MW (U-5)	519.90	0.00	0.00	0.00	0.00	519.90
51	Generator Transformer (T4) Unit 4	951.50	0.00	0.00	0.00	0.00	951.50
	Sub Total (G)	1474.82	0.00	0.00	0.00	0.00	1474.82
G	Schemes put to use and capitalized in 2011-12						
52	Condenser Tubes - 210 MW (U-4)	973.50	0.00	0.00	0.00	0.00	973.50
	Sub Total (H)	973.50	0.00	0.00	0.00	0.00	973.50
H	Schemes put to use and capitalized in 2012-13						
54	270 MVA, 15.75/236 KV Generator Transformer	950.87	0.00	0.00	0.00	0.00	950.87
55	220 KV Switchyard (245 KV SF6 Circuit Breaker)	699.28	0.00	0.00	0.00	0.00	699.28
56	R&M of station lighting of unit #4 & #5.	55.36	0.00	0.00	0.00	0.00	55.36
57	Design supply Installation testing & Commissioning of Lift (Goods lift)	55.50	0.00	0.00	0.00	0.00	55.50
	Sub Total (I)	1761.02	0.00	0.00	0.00	0.00	1761.02

S. No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
I	Schemes capitalized in 2013-14						
58	220 KV Switchyard (245 KV SF6 Circuit Breaker)	618.26	0.00	0.00	0.00	0.00	618.26
59	R&M of station lighting of Units 4 & 5.	5.43	0.00	0.00	0.00	0.00	5.43
60	Magnetic separators/ susp magnet IV & V	66.20	0.00	0.00	0.00	0.00	66.20
61	270 MVA, 15.75/236 KV Generator Transformer	23.00	0.00	0.00	0.00	0.00	23.00
	Sub Total (J)	712.89	0.00	0.00	0.00	0.00	712.89
	Total Additional Capital Expenditure allowed excluding decapitalization and discharges	12800.83	6481.64	1438.01	105.65	57.35	20883.48

**Assets at S.No. 4,10,11,12,13,16,17, 26 to 48, 51,52, 54,55, 58,61 are re-usable assets, accordingly, depreciation is allowed only for the period till shutdown i.e. 15.10.2018. The Petitioner is advised to reuse these assets at other stations by capitalizing these assets at net value.*

J. Decapitalization

138. It is observed that the Petitioner has claimed decapitalization of Rs. 555.08 lakh during the period 2014-19 as follows:

(in Rs. lakh)

S.No.	Head of Work /Equipment	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Schemes approved by Commission vide order dated 12.4.2017 in Petition No 288/GT/2014							
1	Decapitalization of ESP	(-) 5.04	(-) 4.89	0.00	0.00	0.00	(-) 9.93
Schemes approved by Hon'ble Commission vide order dated 12.05.2011 in petition no 324/2009 filed for approval of R&M of BTPS							
2	Decapitalization of 'Procurement of UAT'	0.00	0.00	(-) 10.26	0.00	0.00	(-) 10.26
Procurement of MBOA							
3	Decapitalization of MBOA corresponding to above add cap	(-) 0.49	(-) 1.60	(-) 7.30	(-) 0.53	(-) 15.63	(-) 25.56
Decapitalization							
4	Decapitalization of MBOA-Part of capital cost	(-) 1.10	0.00	(-) 9.06	0.00	0.00	(-) 10.16
5	Decapitalization of Capital Spares- Part of capital cost	0.00	0.00	(-) 81.81	(-) 48.92	0.00	(-) 130.73
6	Decapitalization of ABT System	0.00	0.00	(-) 15.10	0.00	0.00	(-) 15.10
7	Decapitalization of Condenser Tubes	0.00	0.00	(-) 353.32	0.00	0.00	(-) 353.32
Total Decapitalization		**(-) 6.64**	**(-) 6.49**	**(-) 476.85**	**(-) 49.46**	**(-) 15.63**	**(-) 555.08**

139. Regulation 14(4) of the 2014 Tariff Regulations provides that the original value of the de-capitalized 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.

Assumed Deletion

140. It is observed that the Petitioner has claimed additional capital expenditure towards several assets which are of replacement in nature but have not furnished the value of decapitalized assets. Accordingly, considering the fact that 95 MW units are around 40 years old and 210 MW units are 33 years old as on the opening day of the tariff setting, i.e. 2014-19, and the consistent practice followed by the Commission for old stations, including the instant generating station, the decapitalized value of such assets has been computed considering assumed deletion at 10% of the value capitalized on an accrual basis, as follows:

(in Rs. lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Strengthening of Conveyor Structure in CHP Area.	52.56	0.00	0.00	0.00	0.00
Procurement of Fire Tender (2 No.)	7.80	0.00	0.00	0.00	0.00
Workshop Building	0.00	0.00	5.48	0.00	0.68
Renovation of stores: construction of additional store building	0.00	0.00	26.76	0.36	0.00
Renovation of quarters of BTPS T/ship	75.08	0.63	0.00	0.00	0.00
Renovation & Extension of BTPS Dispensary.	13.63	0.00	0.86	0.00	0.00
Drainage and sewage system upgradation of township of BTPS including rain water harvesting	0.35	0.00	2.75	0.00	0.31
Renovation of services Complex housing Bank, Post office etc.	6.28	0.23	0.00	0.00	0.00
Procurement of one (01) No. Locomotive 1350 HP	0.00	94.75	0.00	0.00	0.00
Procurement of dozer (5 No)	89.55	0.00	0.00	0.00	0.00
Passenger lift in TG Hall	0.00	0.00	2.66	0.00	0.00
Air conditioning system based on screw chiller	0.00	0.00	13.31	0.00	0.00
Modification in HPH & LPH Drip System in Unit IV & V (2x210 MW)	5.66	3.62	0.00	0.00	0.00
R&M of 220 kV Switchyard	2.57	0.00	0.00	0.00	0.00
Renovation of lighting system	2.53	3.93	0.00	0.00	0.29
Labour rest rooms	0.78	0.00	0.00	0.00	0.00

	2014-15	2015-16	2016-17	2017-18	2018-19
Sodium Analyzer	2.20	0.00	0.00	0.00	0.00
Turbidity Sensor & TXR & IND	2.37	0.00	0.00	0.00	0.00
Conductivity Analyzer	0.00	0.11	0.00	0.00	0.00
Portable Alloy Analyzer	0.00	1.77	0.00	0.00	0.00
Energy Efficient Cartridge of BFP	0.00	66.14	22.54	0.00	0.00
Inflatable Jack 40T to 50 T	0.00	0.00	0.34	0.00	0.00
Battery operated Truck	0.00	0.00	0.41	0.02	0.00
Procurement of T&P Items	0.00	0.22	0.00	0.00	0.00
Furniture and Fixtures	2.52	0.25	1.73	0.19	0.00
Other Office Equipment’s	5.27	2.31	4.01	0.56	0.43
Procurement of EDP, WP Machines & SATCOM equipment’s	14.11	10.32	7.11	2.09	1.75
Procurement of Vehicles	0.00	0.02	0.00	0.00	0.00
Procurement of Communication Equipment’s	0.00	0.13	0.10	0.00	0.00
Construction Equipment’s	4.36	0.00	0.00	0.05	0.00
Software	1.36	0.15	0.23	0.00	0.00
Hospital Equipment’s	0.99	1.69	0.00	0.16	0.00
Procurement of Electrical Installations	0.00	0.00	0.00	0.00	0.06
Main Plant Package (Boiler & Aux. TG & Aux. Electrical & C&I)	0.34	0.00	0.00	0.00	0.00
Condenser Tubes,90:10 CU/ NI,30X28X10020L - 210 MW (U-5)	51.99	0.00	0.00	0.00	0.00
Generator Transformer (T4) Unit 4	95.15	0.00	0.00	0.00	0.00
Condenser Tubes - 210 MW (U-4)	97.35	0.00	0.00	0.00	0.00
270 MVA, 15.75/236 KV Generator Transformer	103.51	0.00	0.00	0.00	0.00
220 KV Switchyard (245 KV SF6 Circuit Breaker)	69.93	0.00	0.00	0.00	0.00
R&M of station lighting of Units 4 & 5	5.69	0.00	0.00	0.00	0.00
Design supply Installation testing & Commissioning of Lift (Goods lift)	6.70	0.00	0.00	0.00	0.00
220 kV Switchyard (245 kV SF6 Circuit Breaker)	72.81	0.00	0.00	0.00	0.00
R&M of station lighting of Units 4 and 5	0.54	0.00	0.00	0.00	0.00
Magnetic separators/susp magnet IV & V	6.62	0.00	0.00	0.00	0.00
270 MVA, 15.75/236 KV Generator Transformer	2.30	0.00	0.00	0.00	0.00
Total	**802.91**	**186.29**	**88.28**	**3.43**	**3.52**

141. The total decapitalization considered for the period 2014-19 is as follows:

(in Rs. lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Decapitalization	6.64	6.49	476.85	49.46	15.63	555.08

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Assumed Deletion	802.91	186.29	88.28	3.43	3.52	1084.42
Total	**809.54**	**192.78**	**565.13**	**52.88**	**19.15**	**1639.49**

<u>Exclusions</u>

142. The summary of exclusions from the books of accounts, as claimed by the Petitioner for the period 2014-19, on an accrual basis, is as under:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	**Items not Claimed**					
	Cooling Tower for St-I	119.11	0.00	0.00	0.00	0.00
	100 mw Condensate level Control system	5.38	0.00	0.00	0.00	0.00
	Resurfacing of Bituminous Road using fly ash	123.76	0.00	0.00	0.00	0.00
	Adjustment from Fly Ash Utilization Reserve Fund	(-) 123.76	0.00	0.00	0.00	0.00
B	**Schemes disallowed by Commission**					
	Thermo – gravimetric analyzer	0.00	20.40	0.00	0.00	0.00
	Sulphur analyzer	0.00	18.04	0.00	0.00	0.00
	Automatic Bomb Calorimeter	0.00	15.56	0.00	0.00	0.00
	Neutral Grounding Transformers St-I	0.00	0.00	41.75	0.00	0.00
	Procurement of Energy Efficient Lighting	0.00	0.00	52.30	0.00	0.00
	Plant Air compressor of 40 M3 per minute	0.00	0.00	0.00	89.65	0.00
	Energy efficient LED lighting and fixtures	0.00	0.00	0.00	48.42	0.00
	Plant air compressor of 40 M3 per minute	0.00	0.00	0.00	0.00	2.36
C	Capitalization of Capital Spares	2613.15	3106.77	991.77	65.20	2.95
D	Inter Unit Transfer	(-) 1.31	(-) 9.49	(-) 2.36	(-) 9.83	(-) 96.17
E	Permanent Inter Unit Transfer of capital Spares to Talcher TPS- Not Part of capital cost	0.00	0.00	0.00	(-) 27.05	0.00
F	Decapitalization of Capital Spares-Not part of Capital Cost	(-) 1116.56	(-) 1718.63	(-) 126.78	(-) 68.82	(-) 11.29
G	Decapitalization of	(-) 59.21	(-) 22.11	(-) 74.62	(-) 3.49	(-) 1.07

		2014-15	2015-16	2016-17	2017-18	2018-19
	MBOAs: Not Part of Capital Cost					
H	Liability Reversal	0.00	0.00	(-) 13.70	(-) 0.58	(-) 391.66
	Total claimed	**1560.57**	**1410.54**	**868.35**	**93.51**	**(-) 494.87**

143. We examine the exclusions claimed by the Petitioner in the subsequent paragraphs.

(a) Items not claimed

144. The Petitioner has claimed the exclusion of Rs. 119.11 lakh towards Cooling Tower for Stage-I, Rs. 5.38 lakh towards 100 MW Condensate level Control system and Rs. 123.76 lakh towards Resurfacing of Bituminous Road using fly ash and (-) Rs. 123.76 lakh towards Adjustment from Fly Ash Utilization Reserve Fund in 2014-15. In justification for the Cooling Tower for Stage-I and 100 MW Condensate level Control system, the Petitioner has submitted that the Commission has not allowed the additional capitalization for the same, and therefore has been kept under exclusion. In justification for the Resurfacing of Bituminous Road using fly ash and Adjustment from Fly Ash Utilization Reserve Fund in 2014-15, the Petitioner has submitted that the asset was created from the funds released from Ash Sale Fund and as this asset was not created from the funds of the Company, the same was capitalized and decapitalized in the same year as per accounting practice, and therefore, both, the capitalization and decapitalization, has been kept under exclusion. Since the additional capitalization towards the said assets was not allowed by the Commission, the exclusion claimed for such assets is allowed.

(b) Scheme Disallowed

145. The Petitioner has claimed the exclusion of Rs. 54.00 lakh in 2015-16, Rs. 94.05 lakh in 2016-17 Rs. 138.08 lakh in 2017-18 and Rs. 2.36 lakh in 2018-19 towards schemes disallowed by the Commission. The Petitioner has submitted that these items

were disallowed by the Commission vide its order dated 12.4.2017 in Petition No. 288/GT/2014. It is observed from the submissions of the Petitioner that these items have not been allowed in tariff and do not form part of the capital cost. Since these assets do not form part of the capital cost, the exclusion of these items for the said amount is allowed.

(c) Capitalization of capital spares

146. The Petitioner has claimed the exclusion of capital spares for Rs. 2613.15 lakh in 2014-15, Rs. 3106.77 lakh in 2015-16, Rs. 991.77 lakh in 2016-17, Rs. 65.20 lakh in 2017-18 and Rs. 2.95 lakh in 2018-19. In justification for the same, the Petitioner has submitted that as capital spares capitalized 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 capital spares is not admissible as per the 2014 Tariff Regulations, the Petitioner's claim for exclusion under this head is allowed.

(d) Inter-unit transfer of assets

147. The Petitioner has claimed the exclusion of (-) Rs. 1.31 lakh in 2014-15, (-) Rs. 9.48 lakh in 2015-16, (-) Rs. 2.36 lakh in 2016-17, Rs. 9.83 lakh in 2017-18 and Rs. 96.17 lakh in 2018-19, on account of inter-unit transfer of assets to/from the generating station. In justification of the same, the Petitioner has submitted that since the Commission is not considering the temporary inter-unit transfer of assets for the purpose of tariff, the same has been kept under exclusions. The Commission, in its various orders, while dealing with the application for additional capitalization in respect of other generating stations of the Petitioner, had decided that both positive and negative entries arising out of inter-unit transfers of a temporary nature shall be ignored

for the purposes of tariff. In line with the said decision, the exclusion of the said amounts on account of inter-unit transfer is allowed.

(e) Permanent Inter-unit transfer of assets

148. The Petitioner has claimed the exclusion of (-) Rs. 27.05 lakh in 2017-18, on account of inter-unit transfer of assets to/from the generating station. In justification of the same, the Petitioner has submitted that due to permanent closure of BTPS, these spares have been transferred to Talcher TPS permanently. As these spares were not part of capital cost of this generating station (BTPS), the same were kept under exclusion. Since these assets do not form part of the capital cost allowed, the exclusion claimed under this head is allowed.

(f) De-capitalization of capital spares (not forming part of capital cost)

149. The Petitioner has claimed the exclusion of de-capitalization of capital spares not forming part of the admitted capital cost of the generating station for (-) Rs. 1116.56 lakh in 20-14-15, (-) Rs. 1718.63 lakh in 2015-16, (-) Rs. 126.78 lakh in 2016-17, (-) Rs. 68.82 lakh in 2017-18 and (-) Rs. 11.29 lakh in 2018-19. In justification of the same, the Petitioner has submitted that these capital spares do not form part of the capital cost of the generating station allowed, and accordingly, their de-capitalization has been claimed as exclusions. It is observed from the submission of the Petitioner that these capital spares do not form part of the capital cost allowed for the generating station. Accordingly, the Petitioner's claim for exclusion under this head is allowed.

(g) De-capitalization of MBOAs (not forming part of the capital cost)

150. The Petitioner has claimed the exclusion of de-capitalization of MBOAs not forming part of admitted capital cost of the generating station amounting to (-) Rs. 59.21 lakh in 20-14-15, (-) Rs. 22.11 lakh in 2015-16, (-) Rs. 74.62 lakh in 2016-17, (-)

Rs. 3.49 lakh in 2017-18 and (-) Rs. 1.07 lakh in 2018-19. In justification of the same, the Petitioner has submitted that these MBOAs do not form part of the admitted capital cost of the generating station and have therefore, been kept under exclusion. Since these de-capitalized MBOAs do not form part of the admitted capital cost of the generating station, the exclusion claimed under this head is allowed.

(h) Reversal of liabilities

151. The Petitioner has claimed reversal of liabilities for Rs. 13.70 lakh in 2016-17, Rs. 0.58 lakh in 2017-18 and Rs. 391.66 lakh in 2018-19. In justification of the same, the Petitioner has submitted that since the tariff is allowed on a cash basis, and the liabilities do not form part of the tariff, the reversal of the same has been kept under exclusion. Accordingly, since tariff is allowed on a cash basis, the exclusion of reversal of un-discharged liabilities is allowed for the purpose of tariff.

152. Based on the above, the summary of exclusions allowed for the period 2014-19 is as under:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	**Items not claimed**					
	Cooling Tower for St-I	119.11	0.00	0.00	0.00	0.00
	100 mw Condensate level Control system	5.38	0.00	0.00	0.00	0.00
	Resurfacing of Bituminous Road using fly ash	123.76	0.00	0.00	0.00	0.00
	Adjustment from Fly Ash Utilization Reserve Fund	(-) 123.76	0.00	0.00	0.00	0.00
B	**Schemes disallowed by Commission**					
	Thermo – gravimetric analyzer	0.00	20.40	0.00	0.00	0.00
	Sulphur analyzer	0.00	18.04	0.00	0.00	0.00
	Automatic Bomb Calorimeter	0.00	15.56	0.00	0.00	0.00
	Neutral Grounding Transformers St-I	0.00	0.00	41.75	0.00	0.00
	Procurement of Energy Efficient Lighting	0.00	0.00	52.30	0.00	0.00

		2014-15	2015-16	2016-17	2017-18	2018-19
	Plant air compressor of 40 M3 per minute	0.00	0.00	0.00	89.65	0.00
	Energy efficient LED lighting and fixtures	0.00	0.00	0.00	48.42	0.00
	Plant air compressor of 40 M3 per minute	0.00	0.00	0.00	0.00	2.36
C	Capitalization of Capital Spares	2613.15	3106.77	991.77	65.20	2.95
D	Inter Unit Transfer	(-) 1.31	(-) 9.49	(-) 2.36	(-) 9.83	(-) 96.17
E	Permanent Inter Unit Transfer of capital Spares to Talcher TPS-Not Part of capital cost	0.00	0.00	0.00	(-) 27.05	0.00
F	Decapitalization of Capital Spares-Not part of capital cost	(-) 1116.56	(-) 1718.63	(-) 126.78	(-) 68.82	(-) 11.29
G	Decapitalization of MBOAs: Not part of capital cost	(-) 59.21	(-) 22.11	(-) 74.62	(-) 3.49	(-) 1.07
H	Liability Reversal	0.00	0.00	(-) 13.70	(-) 0.58	(-) 391.66
	Total allowed	**1560.57**	**1410.54**	**868.35**	**93.51**	**(-) 494.87**

Discharge of liabilities

153. The Petitioner has claimed discharge of liabilities as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
227.54	191.55	434.35	487.29	201.93

154. The above discharges claimed by the Petitioner, is allowed for the purpose of tariff.

155. Accordingly, the additional capital expenditure allowed for the period 2014-19 is summarized below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capital expenditure allowed excluding de-capitalization and discharges	12800.83	6481.64	1438.01	105.65	57.35
Less: De-capitalization	809.54	192.78	565.13	52.88	19.15
Add: Exclusions disallowed	0.00	0.00	0.00	0.00	0.00
Add: Discharges of liabilities	227.54	191.55	434.35	487.29	201.93

Net additional capital expenditure allowed	12218.83	6480.41	1307.22	540.05	240.13

Capital cost allowed for the period 2014-19

156. Accordingly, the capital cost approved for the period 2014-19 is summarized below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	**50172.13**	**62390.96**	**68871.36**	**70178.59**	**70718.63**
Add: Net additional capital expenditure allowed	12218.83	6480.41	1307.22	540.05	240.13
Closing capital cost	**62390.96**	**68871.36**	**70178.59**	**70718.63**	**70958.76**
Average capital cost	56281.54	65631.16	69524.97	70448.61	70838.70

Debt-Equity Ratio

157. 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 utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.
(3) In case of the generating station and the transmission system including communication, system declared under commercial operation prior to 1.4.2014, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered:
(4) In case of the generating station and the transmission system including communication, system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt: equity

ratio based on actual information provided by the generating company or the transmission licensee as the case may be.
(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

158. The Commission, in its order dated 12.4.2017 in Petition No. 288/GT/2014, has considered the normative loan and equity, as on 1.4.2014, as under:

(Rs. in lakh)

	Gross	%	Net	%
Debt	26801.60	53.42	0.00	0.00
Equity	23370.53	46.58	9943.42	100.00
Total	**50172.13**	**100.00**	**9943.42**	**100.00**

159. The normative loan and equity approved as above have been considered for the purpose of tariff, as on 1.4.2014. Further, the additional capital expenditure admitted as above has been allocated in the debt-equity ratio of 70:30. The details of debt and equity considered for the purpose of tariff are as follows:

(Rs. in lakh)

	Capital cost as on 1.4.2014		Additional Capital Expenditure 2014-19		Capital cost as on 15.10.2018	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
On Gross Basis						
Debt	26801.60	53.42	14550.64	70.00	41352.24	58.28
Equity	23370.53	46.58	6235.99	30.00	29606.52	41.72
Total	**50172.13**	**100.00**	**20786.63**	**100.00**	**70958.76**	**100.00**

Note: On net basis the normative loan and equity as on 15.10.2018 works out to 'nil' and Rs.15679.49 lakh, respectively.

Return on Equity

160. Regulation 24 of the 2014 Tariff Regulations provides as follows:

"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."

161. Regulation 25 of the 2014 Tariff Regulations provides as follows:

"25. Tax on Return on Equity:

xxx

(2) 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".
(3) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t) Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line
with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business as the case may be and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT)
"t" shall be considered as MAT rate including surcharge and cess. Illustration.
(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess: Rate of return on equity = 15.50/(1-0.2096) = 19.610%
(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:
(a)Estimated Gross Income from generation or transmission business for FY 201415 is Rs 1000 crore.
(b)Estimated Advance Tax for the year on above is Rs 240 crore.
(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore/Rs 1000 Crore = 24%
(d)Rate of return on equity = 15.50/ (1-0.24) = 20.395%

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

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

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Normative Equity-Opening (A)	9943.42	13609.07	15553.19	15945.36	16107.37
Addition of Equity due to additional capital expenditure (B)	3665.65	1944.12	392.17	162.01	72.04
Repayment of equity (balance of depreciation after repayment of loan) (C)	0.00	0.00	0.00	0.00	499.92
Normative Equity-Closing (D = A + B - C)	13609.07	15553.19	15945.36	16107.37	15679.49
Average Normative Equity (E = (A+D)/2)	11776.24	14581.13	15749.27	16026.36	15893.43
Return on Equity (Base Rate) (F)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the year (G)	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (H = (F)/(1-G))	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) annualized (I = E x H) (annualized)	2309.32	2873.21	3103.39	3157.99	3140.22
Return on Equity - Pre-Tax (pro-rata)	**2309.32**	**2873.21**	**3103.39**	**3157.99**	**1703.46**

Interest on Loan

163. 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 capitalized:

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

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

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

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

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

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

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

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

(a) Gross normative loan and cumulative repayment amounting to Rs.26801.60 lakh as on 1.4.2014, as considered in order dated 12.4.2017 in Petition No. 288/ GT/ 2014, has been retained as on 1.4.2014;

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

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

(d) Weighted average rate of interest (WAROI) as claimed by the Petitioner has been considered for the purpose of tariff.

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

(Rs in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross opening loan (A)	26801.60	35354.78	39891.06	40806.12	41184.15
Cumulative repayment of loan up to previous year (B)	26801.60	29223.90	32604.60	36067.92	39800.43
Net Loan Opening (C = A - B)	0.00	6130.88	7286.46	4738.20	1383.72
Addition due to additional capital expenditure (D)	8553.18	4536.29	915.06	378.03	168.09
Repayment of loan during the period (E)	2988.98	3515.64	3728.80	3769.53	1556.85
Less: Repayment adjustment on account of de-capitalization (F)	566.68	134.95	265.48	37.02	5.04
Net Repayment of during the year (G = E - F)	2422.30	3380.70	3463.32	3732.51	1551.81
Net Loan Closing (H = C + D - G)	6130.88	7286.46	4738.20	1383.72	0.00
Average Loan (I = (C+H)/2)	3065.44	6708.67	6012.33	3060.96	691.86
WAROI (J)	9.8325%	9.1481%	8.8814%	8.3097%	8.1001%
Interest on Loan (K = I x J)	**301.41**	**613.72**	**533.98**	**254.36**	**56.04**
Less: Accounting adjustment for interest capitalised in respect of allowed ACE (L)	301.41	613.72	19.73	0.00	0.00
Interest on Loan (M = K - L) (annualized)	**0.00**	**0.00**	**514.25**	**254.36**	**56.04**
Interest on Loan (M = K - L) (pro-rata)	**0.00**	**0.00**	**514.25**	**254.36**	**30.40**

Depreciation

166. Regulation 27 of the 2014 Tariff Regulations provides as follows:

"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) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

167. Cumulative depreciation amounting to Rs. 40228.72 lakh, as on 1.4.2014, as considered in order dated 12.4.2017 in Petition No. 288/GT/2014, has been retained for the purpose of tariff. Depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) for the respective years of the period 2014-19. Further, depreciation has been adjusted for de-capitalization of assets considered

during the respective years. Accordingly, depreciation is worked out and allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Average capital cost (A)	56281.54	65631.16	69524.97	70448.61	70838.70
Value of freehold land included in average capital cost (B)	0.00	0.00	0.00	0.00	0.00
Depreciable value (C = (A -B) x 90%)	50653.39	59068.04	62572.48	63403.75	63754.83
Remaining aggregate depreciable value at the beginning of the year (D) = (C – 'J' of preceding year)	10424.67	16575.65	16736.50	14104.45	10733.17
WAROD (E)	5.3108%	5.3567%	5.3633%	5.3508%	5.3523%
Depreciation during the period (F) = for 2014-18 'G' and for 2018-19 'G x 198/365)	2988.98	3515.64	3728.80	3769.53	2056.77
Depreciation (annualized) (G = A x E)	**2988.98**	**3515.64**	**3728.80**	**3769.53**	**3791.53**
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (H = F + 'J' of preceding year)	43217.70	46008.04	49564.78	53068.83	55078.43
Less: Depreciation adjustment on account of de-capitalization (I)	725.31	172.06	265.48	47.17	5.04
Cumulative depreciation at the end of the year (J = H - I)	**42492.39**	**45835.98**	**49299.30**	**53021.66**	**55073.39**

Unrecovered Depreciation

168. It is observed that the Petitioner has claimed unrecovered depreciation and has submitted that as on date of the closure of the generating station (BTPS) w.e.f 15.10.2018, the total amount of depreciation lying unrecovered, considering the capital cost allowed up to 31.3.2014, and the additional capitalization claimed for the 2014-18 period is Rs. 84.22 crores. The Petitioner has also submitted that this depreciation corresponds to the assets that were employed at the generating station, and servicing of these assets was allowed by the Commission or has been claimed in the present petition. It has also stated that these assets were being utilized for the generation of power being availed of by the beneficiaries, and the Petitioner would have been able to recover this amount had the generating station been allowed to continue in service for its entire useful life. The Petitioner has further submitted that as the generating station

has been shut down on account of a 'change in law/ directions under Section 11 of the Electricity Act, 2003, the Petitioner is entitled to recover this amount on this count from the beneficiaries in the same manner as it would have been if the generating station were allowed to continue its operation.

169. The Respondent, TPDDL, has submitted that the treatment of allowance of depreciation is done in line with Tariff Regulations and the said unrecovered portion may be recovered from the sale of the capitalized assets. It has, therefore, stated that no additional amount should be allowed towards the balance depreciation for Rs. 84.22 crore. The Respondents BRPL and BYPL have submitted that the Petitioner has been allowed the 'change in law' claims due to the suspension of operations of the selective units, and depreciation ought to be disallowed as held by the Commission in its order dated 20.2.2019 in Petition No. 33/MP/2016, Order dated 21.8.2018 in Petition No.14/MP/2017 and order dated 19.7.2020 in Petition No. 119/MP/2019, since the recovery of the annual fixed charges for the said period are to be limited to the extent of O&M expenses and Interest on loan (IOL). The Respondents have further submitted that for the generating station, the Plant availability had been extremely low due to DPCC directions for suspension of operation since 2011-12 and till the de-commissioning of the generating station in view of the pollution level in NCT of Delhi. They have stated that the second proviso to Regulation 27(3) of the 2014 Tariff Regulations categorically provides that 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 or the extended life. They have further submitted that the generating station was de-commissioned on 15.10.2018, but no such assets were in use or were ready to use for the generating station for the commercial benefit of the consumers, as the electricity

from the generating station was extremely expensive, and the generating station was not environmentally efficient. Therefore, the Respondents have submitted that depreciation of Rs. 84.22 crore may be rejected, and further, the recovery of the said amount cannot be considered in the true-up petition for the period 2014-18. The Respondents have also contended that a separate de-commissioning petition needs to be filed by the Petitioner after the adjudication of this petition to arrive at the unrecovered depreciation, as the details of the recovery from the sale of these assets and details of transfer of salvageable assets to other generating stations would be required for assessing such a claim in terms of the 2014 Tariff Regulations.

170. In response to the above, the Petitioner has reiterated its submissions made in the petition. The Petitioner has added that the claim for unrecovered depreciation, as a result of the decommissioning of the unit, is a separate claim from the change in law claims already determined by the Commission. The Petitioner has also submitted that the purported lower availability of the generating station was due to factors outside the control of the Petitioner, and it would have been able to recover this amount had the generating station been allowed to continue in service for its entire useful life. The Petitioner has referred to the Commission's order dated 21.12.2012 in Petition No. 4/2000 and submitted that the Commission had unequivocally held that the depreciation is not a process for collecting money for the replacement of assets, but rather the primary aim is to provide a process for repayment of the capital in instalments. The relevant portion of the order is extracted below:

> *"3.6.2. On the question of asset base therefore the options with us are either to go for the historical cost base or estimated values which are subjective. We are of the firm view that the depreciation as a time-tested concept accepted by accounting bodies universally is the spreading of the original cost over its effective life. Hence. we are of the view that the value base for the purpose of depreciation should be the historical cost and not the replacement cost or any other values. Again, there are perceptions that subsequent to the opening up of the economy replacement values are tending to decline, despite the inflation in the economy over a period of time. This is a transition period in which it is not advisable*

to launch any particular method without fully understanding the implications. Therefore, we would advocate the continuation of the existing base for the calculation of depreciation namely the historical cost. We are not convinced about the ODRC method since it has already been concluded that primarily depreciation is not a process for collecting money for replacement of the asset but is a process for repayment of the capital in instalments."

171. The matter has been considered. The Petitioner has claimed unrecovered depreciation of Rs. 84.22 crores, which is based on the difference between 90% of the capital cost and the cumulative depreciation recovered as on 15.10.2018. The unrecovered depreciation, as worked out by the Commission, based on the closing capital cost, is as under:

(Rs. in lakh)

	Claimed	**As worked out**
Closing capital cost as on 15.10.2018	72043.18	70958.76
Depreciable value as on 15.10.2018	64838.86	63862.89
Cumulative depreciation recovered till 15.10.2018	56416.38	55073.39
Unrecovered depreciation as on 15.10.2018	8422.48	8789.50
Less: Unrecovered depreciation corresponding to reusable assets as indicated in para 138 above		1534.39
Net unrecovered depreciation as on 15.10.2018		**7255.11**

172. It is observed that the Petitioner has transferred or would transfer a few of its assets to its other generating stations, and the remaining assets would be sold in the market, the value of which is not known as of now. Therefore, the Commission is of the view that the unrecovered depreciation is required to be computed based on the assets left/remaining with the Petitioner after the transfer/selling of the assets. In this background, we find no reason for considering or approving the proposal for the recovery of the unrecovered depreciation claimed by the Petitioner in this Petition. However, we grant liberty to the Petitioner to claim the unrecovered depreciation by way of a separate Petition containing all relevant particulars, including the details of the assets, such as:

(a) Assets-Transferred to the other stations,
(b) Assets-Sold in the market along with its value,
(c) Value of the balance assets remaining with the station.

Operation & Maintenance Expenses

173. Regulation 29(1)(a) of the 2014 Tariff Regulations provides as follows:

"*Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:*
(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations/units referred to in clauses (b) and (d):

Year	200/210/250 MW Sets	300/330/350 MW Sets	500 MW Sets	600 MW Sets and above
FY 2014-15	23.90	19.95	16.00	14.40
FY 2015-16	25.40	21.21	17.01	15.31
FY 2016-17	27.00	22.54	18.08	16.27
FY 2017-18	28.70	23.96	19.22	17.30
FY 2018-19	30.51	25.47	20.43	18.38

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

200/210/250 MW	Additional 5th& 6th units	0.90
	Additional 7th& more units	0.85
300/330/350 MW	Additional 4th& 5th units	0.90
	Additional 6th& more units	0.85
500 MW and above	Additional 3rd& 4th units	0.90
	Additional 5th& above units	0.85

174. Regulation 29(1)(b) of the 2014 Tariff Regulations provides as follows:

"*Talcher Thermal Power Station (TPS), Tanda TPS, Badarpur TPS Unit 1 to 3 of NTPC and Chandrapura TPS Unit 1 to 3 and Durgapur TPS Unit 1 of DVC:*

(in Rs Lakh/MW)

Year	Talcher TPS	Chandrapura TPS (Units 1 to 3), Tanda TPS, Badarpur TPWS (Unit 1 to 3) , Durgapur TPS (Unit 1)
2014-15	43.16	35.88
2015-16	45.87	38.14
2016-17	48.76	40.54
2017-18	51.83	43.09
2018-19	55.09	45.80

175. The O&M expenses claimed by the Petitioner in Form-3A are as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Normative O&M expenses in terms of Regulation 29 (1) of the 2014 Tariff Regulations (A)	20263.80	21537.90	22893.90	24334.65	25867.20

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
Water Charges (B)	764.44	961.33	1291.89	588.95	350.17
Capital Spares consumed (C)	1116.56	1718.63	208.59	117.75	11.29
Total O&M expenses claimed (Regulation 29(1) & Regulation 29 (2) of the 2014 Tariff Regulations (D) = (A+B+C)	**22144.80**	**24217.86**	**24394.39**	**25041.35**	**26228.66**
Impact of Pay revision (E)	0.00	118.83	2562.62	2582.24	2398.31
Impact of GST (F)	0.00	0.00	0.00	181.76	209.41
Ash Transportation Expenditure (G)	0.00	0.00	0.00	0.00	0.00
Total O&M expenses claimed (H) = (D+E+F+G)	**22144.80**	**24336.69**	**26957.01**	**27805.35**	**28836.38**

176. The normative O&M expenses claimed by Petitioner are in terms of Regulation 29(1)(a) for two units of 210 MW and Regulation 29(1)(b) for three units of 95 MW each, and the same was allowed in an order dated 12.4.2017 in Petition No. 288/GT/2014. Hence, the claim of the Petitioner for normative O&M expenses is allowed as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
20263.80	21537.90	22893.90	24334.65	25867.20

Water Charges

177. 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:*
>
> *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"*

178. The Petitioner vide affidavit dated 17.1.2020 has furnished the audited Form 3(B), in respect of the actual water charges incurred for the period 2014-19, along with the computation of the year-wise claim as under:

	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Type of Cooling Tower	-					
Type of Cooling Water System	-	Open Cycle/ Closed Cycle				
Water Allocation/ Contracted		59.02	59.02	59.02	59.02	59.02

	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Actual water Consumption (cusec)		59.02	59.02	59.02	59.02	59.02
Actual water Consumption (Cubic Feet)		1861254720	1866354048	1861254720	1861254720	1091256200
Rate of Water Charges (Rs Lakh per Cusec)		6	6	6	6	6
Water Tax Rate (Rs per 1000 Cubic Feet)		12.48	12.48	12.48	12.48	12.48
Township Water Charges	Rs. Lakh	94.00	97.89	62.06	2.55	7.41
Water Charges Paid	Rs. Lakh	680.40	684.93	648.46	588.95	350.17
Other Charges paid to UPID		84.04	276.40	643.43	0.00	0.00
Total water Charges Paid	**Rs. Lakh**	**764.44**	**961.33**	**1291.89**	**588.95**	**350.17**

179. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon the type of plant, type of cooling water system, etc., subject to prudence check of the details furnished by the petitioner. Accordingly, the audited actual water charges claimed by the Petitioner for this generating station are allowed on prudence check:

(Rs. in lakh)

2014 -15	2015 -16	2016-17	2017-18	2018-19
764.44	961.33	1291.89	588.95	350.17

Capital Spares

180. The second proviso to 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:*
> *Xxxxx*
> *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."*

181. As per Regulation 29(2) of the 2014 Tariff Regulations, capital spares are admissible separately. The Petitioner has claimed total capital spares for Rs. 3172.82 lakh during the period 2014-19 (i.e., Rs. 1116.56 lakh in 2014-15, Rs. 1718.63 lakh in

2015-16, Rs. 208.59 lakh in 2016-17, Rs. 117.75 lakh in 2017-18 and Rs. 11.29 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, spare 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 the capital spares replaced/consumed by the generating station during the period 2014-19 may be allowed. The Petitioner, vide affidavit dated 21.4.2022, has submitted audited Form-17, in support of the capital spares consumed. The details of the capital spares submitted by the Petitioner, in Form 9Bi, is as under:

(Rs. in lakh)

Year		**Capital Spares**	
	Part of capital cost (A)	**Not part of capital cost (B)**	**Total Consumed (A+B)**
2014-15	0	1,116.56	1,116.56
2015-16	0	1,718.63	1,718.63
2016-17	81.81	126.78	208.59
2017-18	48.92	68.82	117.75
2018-19	0	11.29	11.29

182. 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 capital spares claimed comprise two categories, i.e. (i) spares that 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.

183. 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. Based on this, the details of the allowed capital spares considered for the period 2014-19 are summarized below:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
A	Capital spares claimed (not part of capital cost)	1116.56	1714.36	126.78	68.82	11.29
B	Value of capital spares disallowed (Less than Rs 1 lakh on individual basis)	6.81	4.27	7.94	2.52	3.05
C	Total value of capital spares considered (A-B-C)	1109.74	1710.09	118.85	66.30	8.24

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	1109.74	1710.09	118.85	66.30	8.24
Salvage value @ 10% (B)	110.97	171.01	11.88	6.63	0.82
Net value of capital spares allowed (C) = (A)-(B)	**998.77**	**1539.08**	**106.96**	**59.67**	**7.41**

Impact of Goods and Service Tax (GST)

185. The Petitioner has claimed amount of Rs. 181.76 lakh in 2017-18 and Rs. 209.41 lakh in 2018-19 on account of impact of GST. It is observed that the Commission while specifying the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from para 49.6 of the SOR to the 2014 Tariff Regulations, which is extracted as follows:

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

186. Further, the escalation rates considered in the O&M expense norms under the 2014 Tariff Regulations is only after accounting for the variations during the past five years of the period 2014-19, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties, no reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST.

Impact of wage revision

187. The Petitioner has claimed total amount of Rs. 7662.00 lakh (Rs. 118.83 lakh in 2015-16, Rs. 2562.62 lakh in 2016-17, Rs. 2582.24 lakh in 2017-18 and Rs. 2398.31 lakh in 2018-19) towards the Impact of wage revision of employees of CISF and Kendriya Vidyalya Staff from 1.1.2016 and employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional 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. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs. 6867.96 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/ ex-gratia	118.83	2562.60	2395.77	1790.76	6867.96

188. The Petitioner, vide affidavit dated 28.6.2021, 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 the generating station);

(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

189. The Petitioner, vide its affidavit dated 30.6.2021, has also furnished the comparative table indicating the actual O&M expenses incurred vis-a-vis the normative O&M expenses recovered in tariff, in respect of the generating station for the period 2014-19 as under:

(Rs. in lakh)

S.No.		2014-15	2015-16	2016-17	2017-18	2018-19
1	Actual O&M expenditure for BTPS excluding water charges	29052	26829	24631	21970	19425
2	Total Normative O&M recovery excluding water charges in tariff	20264	21538	22894	24335	14032
3	Under-recovery of O&M Charges in BTPS	(-) 8789	(-) 5291	(-) 1737	2364	(-) 5393

190. The Petitioner has also submitted that the O&M expense norms under the 2014 Tariff Regulations were decided based on the actual O&M expenses incurred for the period from 2008-09 to 2012-13. It has, however, submitted that the 3rd Pay Revision

Committee for CPSUs was not in existence and/ or incorporated while the 2014 Tariff Regulations were being framed by the Commission. The Petitioner has further submitted that the implementation of recommendations of the 7th Pay Commission and Office Memorandum of Department of Public Enterprises (DPE) were communicated in 2016/2017, whereas the 2014 Tariff Regulations were notified much prior to 3.8.2017. Accordingly, the Petitioner has submitted that the impact thereof, ought to be made pass through in terms of Regulation 54 and 55 of the 2014 Tariff Regulations.

191. We have examined the matter. 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 Objects and Reasons (SOR) to the 2014 Tariff Regulations, had observed that the increase in employees' cost due to the impact of pay revision impact will be examined on a case-to-case basis balancing the interest of generating stations and the consumers. The relevant extract of 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.***
>
> ***xxxxx***
>
> *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.”

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

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

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

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

193. As such, in consideration of the above facts, we find 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 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 2015-19 on a combined basis which is commensurate with the wage revision claim being spread over these four years.

194. The Petitioner has furnished a detailed breakdown of the actual O&M expenses incurred during the period 2014-19 for the generating station. It is noticed that apparently the total O&M expenses incurred is higher than the normative O&M expenses recovered during each year of the period 2014-19. The impact of the wage revision could not be factored in 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.

195. 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 period 2014-19, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate center. Having brought the normative O&M expenses and actual O&M expenses at the 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. As stated, a like-to-like comparison of the actual O&M expenses and normative O&M expenses has been excluded from the actual O&M expenses to arrive at the actual O&M expenses

(normalized) for the generating station. 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 for period 2015-19 (on combined basis) commensurate with the wage revision claim being spread over these four years:

(Rs. in lakh)

Sl. No		2015-16	2016-17	2017-18	2018-19	Total for 2015-19
1	Actual O&M expenditure (normalized) for BTPS (a)	24611.75	22018.29	19082.54	14832.78	80545.35
2	Normative O&M Expenses for BTPS (b)	21537.90	22893.90	24334.65	14032.07	82798.52
3	Under-recovery (-)/Over-recovery (+) (b)-(a)	(-) 3073.85	875.61	5252.11	(-) 800.71	2253.16
4	Wage revision impact claimed excluding PRP/exgratia	118.83	2562.60	2395.77	1790.76	6867.96
5	Wage revision impact allowed excluding PRP/exgratia	**0.00**	**0.00**	**0.00**	**0.00**	0.00

196. It is observed that for the period from 2015-16 to 2018-19, the normative O&M expenses were higher than the actual O&M expenses (normalized) incurred, and the over recovery was Rs. 2253.16 lakh. As such, in terms of the methodology as discussed above, the wage revision impact (excluding PRP/incentive) of Rs.5344.75 lakh is not allowable for this generating station.

197. Based on the above discussions, the total annualized O&M expenses allowed in respect of the generating station are summarized below:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19

		2014-15	2015-16	2016-17	2017-18	2018-19
Installed Capacity (MW) (A)		705.00	705.00	705.00	705.00	705.00
Total O&M Expenses (in Rs lakh) (C) = (A)*(B)	Claimed	20263.80	21537.90	22893.90	24334.65	25867.20
	Allowed	20263.80	21537.90	22893.90	24334.65	14032.07
Water Charges (in Rs lakh) (D)	Claimed	764.44	961.33	1291.89	588.95	350.17
	Allowed	764.44	961.33	1291.89	588.95	350.17
Capital Spares Consumed (in Rs lakh) (E)	Claimed	1116.56	1718.63	208.59	117.75	11.29
	Allowed	998.77	1539.08	106.96	59.67	7.41
Total O&M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (C+D+E)	Claimed	**22144.80**	**24217.86**	**24394.39**	**25041.35**	**26228.66**
	Allowed	**22027.01**	**24038.31**	**24292.76**	**24983.28**	**14389.65**
Additional O&M Expenditure						
Impact of Wage Revision (in Rs lakh) (G)	Claimed	0.00	118.83	2562.62	2582.24	2398.31
	Allowed	0.00	0.00	0.00	0.00	0.00
Impact of GST (in Rs lakh) (H)	Claimed	0.00	0.00	0.00	181.76	209.41
	Allowed	0.00	0.00	0.00	0.00	0.00
Ash Transportation Expenditure (I)	Claimed	0.00	0.00	0.00	0.00	0.00
	Allowed	0.00	0.00	0.00	0.00	0.00
Sub Total Additional O&M Expenditure (J) = (F+G+H+I)	Claimed	**0.00**	**118.83**	**2562.62**	**2764.00**	**2607.72**
	Allowed	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total O&M Expenses in Rs lakh (K) = (F+I)	Claimed	**22144.80**	**24336.69**	**26957.01**	**27805.35**	**28836.38**
	Allowed	**22027.01**	**24038.31**	**24292.76**	**24983.28**	**14389.65**

Operational Norms

Normative Annual Plant Availability Factor

198. The Normative Annual Plant Availability Factor of 83% for the period from 2014-15 to 2016-17 and 85% for the period from 2017-18 and 2018-19, in accordance with the provisions of Regulation 36 (A) of the 2014 Tariff Regulations is allowed.

Auxiliary Energy Consumption

199. The Petitioner has claimed Auxiliary Energy Consumption (AEC) of 8.50% as per Regulation 36(E)(a)(ii) of the 2014 Tariff Regulations and the same is allowed.

Station Heat Rate

200. The Gross Station Heat Rate of 2750.00 Kcal/ kWh for the period 1.4.2014 to 31.12.2015 and 2675.75 Kcal/ kWh for subsequent period as allowed by the Commission in order dated 11.11.2019 in Petition No. 91/MP/2016 is allowed.

Specific Oil Consumption

201. The specific oil consumption of 0.5 ml/ kWh, in terms of Regulation 36 (C) of the 2014 Tariff Regulations is allowed.

Interest on Working Capital

202. 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 pithead generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*
> *(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor and in case of use of more than one secondary fuel oil cost of fuel oil stock for the main secondary fuel oil;*
>
> *(iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;*
> *(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*
> *(vi) Operation and maintenance expenses for one month.*
> *(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this regulation shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.*
> *(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 Cost and Energy Charges in Working Capital

203. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as a part of Interest on Working Capital (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. Regulation 30 (6) of the 2014 Tariff Regulations provides as follows:

"30. Computation and Payment of Capacity Charge and Energy Charge for Thermal Generating Stations:
(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formula:
(a) For coal based and lignite fired stations
ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)
***(b)** xxxxx*
Where,

AUX =Normative auxiliary energy consumption in percentage.
*CVPF=(a) Weighted Average Gross calorific value of coal **as received**, in kCal per kg for coal based stations*
*(b) Weighted Average Gross calorific value of primary fuel **as received**, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations.*
(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.
CVSF =Calorific value of secondary fuel, in kCal per ml.
ECR = Energy charge rate, in Rupees per kWh sent out.
GHR =Gross station heat rate, in kCal per kWh.
LC = Normative limestone consumption in kg per kWh.
LPL = Weighted average landed price of limestone in Rupees per kg.
LPPF =Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)
SFC = Normative Specific fuel oil consumption, in ml per kWh.
LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month

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

> *"(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, eauction 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."*

205. The regulations for computation of energy charges was challenged by the Petitioner and other generating companies on the issue of 'as received' GCV specified in Regulation 30 of the 2014 Tariff Regulations, through various writ petitions filed before the High Court of Delhi (W.P. No.1641/2014-NTPC v CERC). The Court directed the Commission to decide the place from where the sample of coal should be taken for measurement of GCV of coal on 'as received' basis on the request of Petitioners. In terms of the directions of the the 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 follows:

> *"58. In view of the above discussion, the issues referred by the 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."

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

207. In Petition No. 288/GT/2014 filed by the Petitioner for the determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on 'as billed' and on 'as received' basis for the preceding 3 months i.e. for January 2014, February 2014 and March 2014 that were required for the determination of Interest on Working Capital (IWC). Therefore, the Commission, vide order dated 12.4.2017 in Petition No.288/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.

208. The Petitioner, in this petition, has furnished the average GCV of coal as 3668.57 Kcal/kg on "as received" basis for the period from October, 2016 to March 2019. As per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014, 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 period 2014-19. The Petitioner has further submitted that CEA vide its letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for pit-head station and a margin of 105-120 kCal/kg for non-pit head station is required to be considered as loss of GCV of coal on "as received" and on "as fired basis respectively. Accordingly, the Petitioner has considered a margin of 120 kCal/kg on average GCV of coal for the period from October 2016 to March 2019 for the computation of working capital of the generating station. Accordingly, the cost of fuel component in the working capital of the generating station based on (i) 'as received' GCV of coal for 30 months from October 2016 to March 2019 with adjustment of 120 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months i.e. January 2014 to March 2014 and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months i.e. January 2014 to March 2014 for the generating station, the Petitioner has claimed the cost of fuel component in the working capital as follows:

(Rs. in lakh)

	2014-15	**2015-16 (1.4.15 to 31.12.15)**	**2015-16 (1.1.16 to 31.3.16)**	**2016-17**	**2017-18**	**2018-19**
Cost of Coal towards stock (30 days)	15212.32	15212.32	14800.88	14800.88	15157.53	15157.53
Cost of Coal towards Generation (30 days)	15212.32	15212.32	14800.88	14800.88	15157.53	15157.53
Cost of Secondary fuel oil 2 months	284.59	285.37	285.37	284.59	291.45	291.45

209. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of 398.256 paise/kWh for period of 1.4.2014 to 31.12.2015 and 387.583 paise/kWh for period of 1.1.2016 to 15.10.2018 for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as indicated above. Further, the Petitioner in its petition has submitted that on 31.12.2015, DPCC had directed it not to operate 4 units (out of the 5

Units) up to 15.3.2016 with immediate effect and thus, the Petitioner, was not given a reasonable time or opportunity to comply with the DPCC's demands for reducing the Particulate Matter emission with regard to Stage-I (3 x 95 MW) Units and Stage II (1 x 210 MW). The Petitioner has stated that it was taken by surprise with no means to improve the emission standards of the generating station or the ability to continue operating the said 4 Units, and such directions were issued in extraordinary circumstances due to excessive pollution levels in Delhi. It has also been stated that these directions were issued by the DPCC, which is a competent authority operating under the Government of NCT of Delhi. The relevant extracts of DPCC's direction dated 31.12.2015 are as follows:

> "*In view of the above, the Badarpur Thermal Power Station is directed u/s 31 (A) of the Air Act, 1981 that it shall not operate the 4 Units out of 5 Units of the plant upto 15.02.2016 except one existing unit of 210 MW which is in operation subject to the meeting with the standard of Particulate Matter i.e. 50 mg/Nm3, as decided in the meeting held on 30.12.2015…*"

210. Subsequently, the Petitioner has approached the Commission and filed Petition No. 33/MP/2016 seeking declaration of DPCC directions as a change in law event and consequently to issue suitable directions. By order dated 20.2.2019 the Commission held as follows:

> *"The Petitioner in this Petition has submitted that even though it is not operating Stage-I Units on account of DPCC directions, it does not disentitle it from receiving compensation under Change in Law, considering the fact that Stage-I is to be kept in the state of readiness till such time complete winding up or dismantling is ordered by the Commission. <u>We find no reason to examine the same in this order. However, in line with the above decision, liberty is granted to the Petitioner to place its submissions along with all relevant documents /information and the same will be considered in accordance with law."</u>*

211. Pursuant to the liberty granted vide order above, the Petitioner has filed the present petition and has claimed the annual fixed charges .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 30.6.2021, 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, for the 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 period 2014-19, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provide that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014), by virtue of it falling under the 2009 Tariff Regulations, shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the Tariff Regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on working capital ought to be computed in terms of Regulation 28 (2) of the 2014 Tariff Regulations, on actual GCV i.e., 'as fired' GCV. The Petitioner, 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 follows:

Sl. No.	Month	Wt. Avg. GCV of coal received (EM basis) (kcal/kg)	Total moisture (TM) (in %)	Equilibrated moisture (EM) (in %)	Wt. Avg. GCV of coal received (TM basis) (kcal/kg)
		(A)	(B)	(C)	(D)= (A)*(1-B%)/ (1-C%)
1	January 2014	3754.00	7.52	4.25	3625.90
2	February 2014	3825.00	6.96	4.10	3710.91
3	March 2014	3872.00	6.83	4.03	3759.19
	Average				**3698.66**

212. 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 above, it has submitted that the GCV of fuel is to be considered 'on actuals' for the period from 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 from January 2014 to March 2014 falls in the period 2009-14 for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable, which mandates that the generating company shall measure GCV on an 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is not acceptable in view of the provisions of Regulation 21(6) of the 2009 Tariff Regulations, which were amended on 31.12.2012, with the 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."

213. 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 a monthly basis. As per the 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 the purpose of IWC, the same would mean allowing (and passing through) all storage losses which would have occurred during the preceding three months (January 2014 to March 2014) for the 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 for two months based on 'as received' GCV of the preceding three months (January 2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

214. The Petitioner, for the purpose of computing the fuel cost, has claimed a GCV of 3668.57 kcal/kg, which represents the simple average of GCV for the period October, 2016 to March, 2019. However, the weighted average GCV for three months, viz. January, 2014 to March, 2014 based on the net coal quantities as per Form-15 of the petition, and the monthly GCV, as submitted by the Petitioner, in the table above, works out to 3698.67 kcal/kg. Accordingly, the cost of fuel components in working capital has been computed by considering the fuel details (price and GCV) as per Form-15 of the petition, except for the 'as received' GCV of coal, which is considered to be 3698.67 kCal/kg, as discussed above. 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 the calculation of fuel components in working capital.

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

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Coal for stock (30 days generation corresponding to NAPAF)	15088.50	14987.03	14680.40	15034.14	15034.14
Cost of Coal for generation (30 days corresponding to NAPAF)	15088.50	14987.03	14680.40	15034.14	15034.14
Cost of Secondary fuel oil (2 months generation corresponding to NAPAF)	286.98	287.77	286.98	293.90	293.90

216. The cost of coal towards stock and generation allowed for the period 2014-19 is more than the cost claimed by the Petitioner for the following reasons:

a) The Petitioner has considered average GCV of coal for 30 months as 3668.57 kCal/kg (including adjustment of GCV of 120 kCal/kg) and weighted average price of coal as 4825.18 Rs/MT while the Commission has considered the same as weighted average GCV 3698.67 kCal/kg and 4825.18 Rs/MT respectively. Storage loss of 120 kCal/kg as considered by the Petitioner has not been considered as there is no such provision in 2014 Tariff Regulations.

b) The Petitioner has considered the 'Normative Transit & Handling losses of 0.80% within the limit as prescribed in Regulation 30(8) of the 2014 Tariff Regulations.

Energy Charge Rate (ECR) for calculating working capital

217. 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 x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)*
> *Where*
> *AUX = Normative auxiliary energy consumption in percentage.*
> *CVPF = Gross calorific value of primary fuel as received in kCal per kg per litre or per standard cubic metre as applicable.*
> *CVSF = Calorific value of secondary fuel in kCal per ml. ECR = Energy charge rate in Rupees per kWh sent out.*
> *GHR = Gross station heat rate in kCal per kWh.*
> *LC = Normative limestone consumption in kg per kWh.*
> *LPL = Weighted average landed price of limestone in Rupees per kg.*
> *LPPF = Weighted average landed price of primary fuel in Rupees per kg per litre or per standard cubic metre as applicable during the month. SFC= Normative specific fuel oil consumption in ml/ kWh*
> *LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month"*

218. The Petitioner has claimed the Energy Charge Rate (ECR) ex-bus of 398.256 Paise/kWh for the generating station, based on the landed cost of coal, during the preceding three months, GCV of coal [on 'as received' basis for average of 30 months] along with the storage loss of 120 kCal/kg} & GCV and price of Oil procured and burnt for the preceding three months of the period 2014-19, for the generating station. Since these claims of the Petitioner have not been allowed in the paras, 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 is worked out as follows:

	Unit	1.4.14 to 31.12.15	1.1.16 to 15.10.2018
Capacity	MW	705.00	705.00
Gross Station Heat Rate	kCal/kWh	2750.00	2675.75
Aux. Energy Consumption	%	8.50%	8.50%
Weighted average GCV of oil	kCal/lit	9546.00	9546.00
Weighted average GCV of Coal for Jan to March 2014	kCal/kg	3698.67	3698.67
Weighted average price of oil	Rs. /KL	67183.83	67183.83
Weighted average price of Coal	Rs. /MT	4825.18	4825.18
Rate of Energy Charge ex-bus	Rs. /kWh	**3.951**	**3.845**

219. The Energy Charges for two months for computation of working capital based on ECR, has been worked out as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
30885.04	30763.07	30056.44	30780.69	30780.69

Working Capital for Maintenance Spares

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

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4428.96	4867.34	5391.40	5561.07	5767.28

221. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses. As specified under Regulation 29(2) of the 2014 Tariff Regulations, the cost of maintenance spares @20% of the O&M expenses, including water charges and cost of capital spares consumed, is allowed as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4405.40	4807.66	4858.55	4996.66	5305.28

Working Capital for Receivables

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

(Rs.in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Variable Charges - for two months (A)	30885.04	30763.07	30056.44	30780.69	30780.69
Fixed Charges - for two months (B)	6214.83	6749.36	6927.28	7054.57	7294.65
Total (C) = (A+B)	**37099.87**	**37512.43**	**36983.71**	**37835.26**	**38075.33**

Working Capital for O & M Expenses (1 month)

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

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1752.86	1875.26	2016.08	2077.16	2155.60

224. 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 for is as under:

(Rs. in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1835.58	2003.19	2024.40	2081.94	2210.53

225. The difference between the O&M expenses for 1 month and maintenance spares claimed and the O&M expenses for 1 month and cost of maintenance spares allowed, as above is on of the fact that, while the Petitioner's claim is based on the O&M expenses inclusive of the expenses on impact of GST and wage revision, these components have not been included in our calculations towards working capital computations allowed.

Rate of interest on working capital

226. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the rate of interest on working _ has been considered as 13.50% (Bank rate of 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
Cost of Coal - 15 (pit head) or 30 days (non-pit head) (A)	15088.50	14987.03	14680.40	15034.14	15034.14
Cost of Coal - 30 days (B)	15088.50	14987.03	14680.40	15034.14	15034.14
Cost of secondary fuel oil - 2 months (C)	286.98	287.77	286.98	293.90	293.90
O&M expenses - 1 month (D)	1835.58	2003.19	2024.40	2081.94	2210.53
Maintenance Spares - 20% of O&M (E)	4405.40	4807.66	4858.55	4996.66	5305.28
Receivables - 2 months (F)	37099.87	37512.43	36983.71	37835.26	38075.33
Total Working Capital (G) = (A+B+C+D+E+F)	**73804.83**	**74585.12**	**73514.44**	**75276.04**	**75953.33**
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working capital (I) = (GxH) (annualized)	**9963.65**	**10068.99**	**9924.45**	**10162.27**	**10253.70**
Interest on Working capital (pro-rata)	**9963.65**	**10068.99**	**9924.45**	**10162.27**	**5562.28**

Annual Fixed Charges for the period 2014-19

227. Based on the above discussion, the annual fixed charges approved for the generating station for the period 2014-19 are summarized as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2988.98	3515.64	3728.80	3769.53	3791.53
Interest on Loan	0.00	0.00	514.25	254.36	56.04
Return on Equity	2309.32	2873.21	3103.39	3157.99	3140.22
Interest on Working Capital	9963.65	10068.99	9924.45	10162.27	10253.70
O&M Expenses	22027.01	24038.31	24292.76	24983.28	26526.38
Total	**37288.97**	**40496.15**	**41563.65**	**42327.42**	**43767.87**

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

228. The pro-rata annual fixed charges allowed to the generating station for the period 2014-19, after truing-up exercise, are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19 (1.4.2018-15.10.2018
37288.97	40496.15	41563.65	42327.42	23742.57

229. 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.

Recovery of other costs consequent upon the closure of the generating station

Outstanding Cost of Capital Spares

230. It is observed that the Petitioner has submitted that as on 15.10.2018, there is considerable amount of unrecovered capital cost as reflected in the books of accounts of the generating station, which includes the cumulative capital cost of all the capital expenditure that has been incurred by the Petitioner for the generating station and lying unrecovered. The Petitioner has also submitted that a major portion of this cost includes cost of capital spares required to ensure the efficient and unhindered functioning of the generating station. The details of capital spares as claimed by the Petitioner are as under:

S.No.	Description	Amount *(in Rs. crore)*
1	Gross value of Capital Spares as on 15.10.2018	135.01
2	Gross Value of Capital Spares transferred to other stations during 15.10.2018 to 31.12.2019	46.03
3	**Capital Spares lying at BTPS as on 31.12.2019**	**88.98**

231. The Petitioner has submitted that it would have been able to recover this amount had the generating station been allowed to continue in service, but, now that the generating station has been shut down on account of a change in law/Section 11 directions, the Petitioner shall be entitled to recover this amount from the beneficiaries in the same manner as it would have had the generating station been allowed to

continue in operation. Accordingly, the Petitioner has requested to allow the reimbursement of the cost of Rs. 88.98 crores from the beneficiaries of the generating station.

232. The Respondents BRPL, BYPL and TPDDL have submitted that the Petitioner has claimed value of capital spares as a part of the O&M expenses, on utilization basis and therefore, the beneficiaries should be not liable to pay for the balance items remaining in stores. They have also stated that any over-inventory purchased by the Petitioner is not to be passed to the beneficiaries and the value of such spares may be recovered through sale of these capital spares. In response, the Petitioner while reiterating its submissions, has pointed out that as on 15.10.2018, there was considerable amount of unrecovered capital cost as reflected in the generating station’s books of accounts and the same was the cumulative capital cost of all the capital expenditure that has been incurred by the Petitioner for the generating station which is lying unrecovered. It has also stated that a major portion of this cost includes the cost of capital spares required to ensure the efficient and unhindered functioning of the generating station and pertinently, these spares and replacement parts are always kept in a ready position, to be utilized at a generating station, so that there is no stalling of operations in the event of a failure/ breakdown of any of its parts. It has stated that this principle has also been acknowledged by the Commission in Regulation 13 of the 2014 Tariff Regulations, which permits the capitalization of 4% of Plant & Machinery cost as Initial Spares for coal-based generating stations. The Petitioner has further submitted that this principle needs to be extended to allow for the recovery of cost of all the spares that have been bought and stocked by the Petitioner for the generating station. the Petitioner has added that these spares would have otherwise been utilized

and allowed in tariff as capital spares consumption had the generating station been allowed to continue operations for its entire useful life. It has submitted that no generating station can be operated without adequate spares and thus, the cost of spares which form part and parcel of capital cost which must be recovered by any generating company. The Petitioner has further submitted that the details of capital spares lying at the generating station as on 30.6.2021 is as follows:

S.No.	Description	Amount *(in Rs. crore)*
1	Gross value of Capital Spares as on 15.10.2018	135.01
2	Gross Value of Capital Spares transferred to other stations during 15.10.2018 to 31.12.2019	46.03
3	**Capital Spares lying at BTPS as on 31.12.2019**	**88.98**
4	Gross Value of Capital Spares transferred to other stations during 1.1.2020 to 30.6.2021)	**7.51**
5	**Capital Spares lying at BTPS as on 30.6.2021**	**81.47**

233. The Petitioner has submitted that this expenditure has indisputably been incurred by the Petitioner for the generating station and same may be allowed to be recovered from beneficiaries.

234. We have considered the submissions. It is a fact that capital spares of 95 MW units are not usable at any other plant of the Petitioner, as no 95 MW unit is in operation at present. As such, considering the fact that these units of the generating station have been decommissioned, the capital expenditure on these inventory spares cannot be recovered through tariff. However, taking into account, the peculiar circumstances of the case and the fact that the generating station was transferred to the Petitioner to cater to the power needs of the Respondents, we, in order to balance the interests of both, the Petitioner and beneficiaries, consider it appropriate to divide the cost on this count, equally between the Petitioner and the beneficiaries, Accordingly, the beneficiaries are directed to reimburse an amount of Rs.4073.50 lakh towards the non-usable capital spares, in six equal monthly installments from the

month subsequent to the date of this order, after reconciliation with the Petitioner that the total amount of Rs.8147 lakh claimed by the Petitioner, represents the cost of initial spares for 95 MW unit only.

Claim for compensation for Stage-I Units (3 x 95 MW) pursuant to the liberty granted vide order dated 20.2.2019 in Petition No. 33/MP/2016.

235. It is observed that the Petitioner has claimed compensation for BTPS Stage-I Units (3 x 95 MW) pursuant to the liberty granted by the Commission vide order dated 20.2.2019 in Petition No. 33/MP/2016. The Petitioner has also submitted that the emission norm applicable to the generating station till 10.2.2016 was 150 mg/Nm3 in terms of the Consent to Operate (CTO) dated 2.1.2014 issued by the DPCC and that the 3 x 95 MW units of Stage-I of the generating station, were capable and compliant with the extant emission norms of 150 mg/Nm3. However, it has been submitted that on 11.2.2016, the emission norms were revised by the DPCC to 50 mg/Nm3 by amending the earlier CTO, and thus, the 3 x 95 MW Units of the generating station were not compliant with this new norm introduced by virtue of a change in law. The summary of relevant events w.r.t. Stage-I of the generating station are as follows:

Date	Event
2.1.2014	DPCC granted Consent to Operate with emission norm of 150 mg/Nm^3.
31.12.2015	DPCC directed not to operate 4 Units of BTPS including all three units of BTPS Stage-I.
11.2.2016	DPCC suddenly modified Consent to Operate dated 02.01.2014 and revised emission norms to 50 mg/Nm^3.
11.2.2016 onwards	All Units kept in the state of readiness and DC declared accordingly.
20.2.2019	The Commission directed that Stage-I of the generating station is entitled to part Annual Fixed Costs (AFC) for the period from 31.12.2015 to 10.2.2016.
15.10.2018	Operation of BTPS (including Stage-I) discontinued permanently.

236. The Petitioner has submitted that it could not take up the necessary modification in ESP of 3 x 95 MW Units of Stage-1 of the generating station to comply with the

revised emission norms as the Commission had not allowed the capital dozing corresponding to these Units. The Petitioner has also submitted that it was prevented from carrying out the works necessary to comply with the more stringent emission norms. The Petitioner has further submitted that although these Units were not complying with the revised emission norms notified by the DPCC on 11.2.2016, these were kept in a state of readiness till 15.10.2018 because of the requirement of the Islanding Scheme of Delhi and these Units were not ordered to be shut down permanently by the Commission or any other competent authority. Therefore, the Petitioner has submitted that it was incurring fixed costs for keeping these Units in a state of readiness till 15.10.2018. It has been argued that these 3 x 95 MW Units of Stage-1 of the generating station were capable of generating power, and the Petitioner was declaring DC of these units as well. The Petitioner has, however submitted that the SLDC did not certify the DC of these units in its monthly account, and consequently, the Petitioner could not bill the capacity charges for these units to the beneficiaries for the period from 11.2.2016 to 15.10.2018. The Petitioner has also stated that the DPCC's amendment dated 11.2.2016 to the generating station's earlier CTO could not have been complied with unless the generating station was allowed the R&M expenses to reduce the emission standards from 150 mg/Nm3 to 50 mg/Nm3. It has stated that, at the same time, Stage-I of generating station, could not have been shut down completely or decommissioned without a specific direction from the CEA or the Commission or any other competent authority, as the generating station was a critical component of the Islanding Scheme for Delhi, which ensures grid stability. The Petitioner has pointed out that under the said Scheme, Delhi's power system will be isolated from the regional grid when grid disturbance is imminent, and in times of such isolation, the generating station was enjoined with the responsibility to continue to meet the emergency loads of essential services, to the extent of approximately 500 MW. It has been submitted that under the said Scheme, the Petitioner was mandated to maintain the generating station in a state of readiness. the Petitioner has submitted that as recorded in the Commission's order dated 3.12.2018 in Petition No. 86/MP/2016, the CEA had also recommended that, keeping in view the Islanding Scheme and grid requirement of Delhi, the generating station may be decommissioned after the commissioning of 400/ 200 kV Tughlakabad S/S and 220 kV Transmission Lines emanating therefrom. The Petitioner had submitted that the Commission, vide its order dated 20.2.2019 in Petition No. 33/MP/2016, had granted liberty to the Petitioner to file its submissions claiming a change in law compensation for the period when Stage-I of the generating station, was required to be kept in a state of readiness, till such time, complete winding up or decommissioning was ordered. The Commission, in the above-mentioned order, had also held that the change in law compensation payable in respect of Stage-I of the generating station for the period from 31.12.2015 to 10.2.2016 shall form part of the annual fixed charges in the form of O&M expenses and interest on loan in terms of the proviso to Regulation 30(2) of the 2014 Tariff Regulations. Accordingly, the Petitioner has sought the intervention of the Commission to declare the revised conditions under the CTO dated 25.7.2018 as a change in law event. The Petitioner has stated that it has incurred significant costs in order to keep the Stage-I of the generating station in a state of readiness until 15.10.2018 and has requested to suitably compensate for such costs incurred by recovering the same from the beneficiaries of the generating station as change in law compensation, in terms of Regulation 8 of the 2014 Tariff Regulations.

237. The matter has been considered. In view of the fact that the three Units of 95 MW were required to be kept in a state of readiness from 11.2.2016 till 15.10.2018, based on the recommendations of the CEA and keeping in view the Islanding Scheme and the grid requirement of Delhi and keeping in view that such closure/shutdown of the units, based on the directions of DPCC, was declared as a "change in law' event vide order dated 20.2.2019 in Petition No. 33/MP/2016. We, in accordance with the principle decided, vide the said order dated 20.2.2019, allow the O&M expenses and interest on the loan, as determined in this order, as a part of the annual fixed charges, for the periods during which the units were under the shutdown. In terms of this, the Petitioner is only permitted to bill the prorated O&M expenses and interest on the loan, as determined in this order, for the periods as mentioned below:

i) *From 31.12.2015 to 10.2.2016 for Stage-I units, i.e.three units of 95 MW each (reference order dated 20.2.2019 in Petition No. 33/MP/2016);*

ii) *From 31.12.2015 to 20.3.2016 for one unit of 210 MW of Stage-II (reference order dated 20.2.2019 in Petition No. 33/MP/2016);*

iii) *From 11.2.2016 to 15.10.2018 for Stage-I units i.e. three units of 95 MW each. (as decided in preceding para*)

238. Petition No. 221/GT/2020 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Pravas Kumar Singh)	**(Arun Goyal)**	**(Jishnu Barua)**
Member	**Member**	**Chairperson**