CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 365/GT/2020

Coram:

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

Date of Order: **30th September, 2022**

In the matter of:

Petition for revision of tariff for NLC Thermal Power Station Stage-I Expansion (420 MW) (420 MW) for the period from 1.4.2014 to 31.3.2019, after truing up exercise.

And

In the matter of:

NLC India Limited,
135/73, EVR Periyar Salai, Kilpauk,
Chennai – 600 010, Tamil Nadu **….. Petitioner**

Vs

1. Tamilnadu Generation and Distribution Corporation Limited,
   NPKRR Maaligai, 144, Anna Salai,
   Chennai – 600002

2. Power Company of Karnataka Limited,
   KPTCL Complex, Kaveri Bhavan,
   Bangalore – 560009

3. Bangalore Electricity Supply Company Limited,
   Krishna Rajendra Circle, Bangalore - 560 001

4. Mangalore Electricity Supply Company Limited,
   Corporate Office, MESCOM Bhavana, Bejai, Kavoor Cross Road,
   Mangalore- 575 004

5. Chamundeshwari Electricity Supply Company Limited
   Corporate Office No CA 29, Vijayanagar 2nd Stage
   Hinakal, Mysore -570017

6. Gulbarga Electricity Supply Company Limited
   Station Main Road, Gulbarga, Gulbarga -585 102
   Karnataka

7. Hubli Electricity Supply Company Limited,
   Corporate office, P. B. Road, Navanagar, Hubli - 580 025

8. Kerala State Electricity Board Limited,
   Vaidyuthi Bhavanam, Pattom,
   Thiruvananthapuram-695004

9. Puducherry Electricity Department,
   137, NSC Bose Salai, Puducherry – 605 001 **…. Respondents**

Parties Present:

Ms. Anushree Bardhan, Advocate, NLC
Ms. Srishti Khindaria, Advocate, NLC
Shri Nambirajan, NLC
Shri Srinivasan, NLC
Shri AK Sahani, NLC
Shri S. Vallinayagam, Advocate, TANGEDCO
Shri B. Rajeswari, TANGEDCO
Shri R. Ramalakshmi, TANGEDCO

ORDER

This petition has been filed by the Petitioner, NLC India Limited, for revision of tariff of NLC Thermal Power Station Stage-I Expansion (2 x 210 MW) (hereinafter referred to as "the generating station") for the 2014-19 tariff period, in accordance with Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

Background

2. The generating station with an installed capacity of 420 MW, comprises of two units of 210 MW each. The date of commercial operation of Unit-I is 9.5.2003 and that of Unit-II/generating station is 5.9.2003. The Commission vide its order dated 4.10.2016 in Petition No. 254/GT/2014 determined the tariff of the generating station for the 2014-19 tariff period, based on the opening capital cost of Rs. 145107.88 lakh, as on 1.4.2014. Thereafter, vide corrigendum order dated 18.11.2016, the computation of Interest on Working Capital was revised with consequential impact on the annual fixed charges.

Accordingly, the capital cost and the annual fixed charges allowed by the order dated 4.10.2016 in Petition No. 254/GT/2014 read with Corrigendum order dated 18.11.2016 are as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	145107.88	145107.88	145107.88	145107.88	145107.88
Additional Capital Expenditure	0.00	0.00	0.00	0.00	0.00
Closing capital cost	145107.88	145107.88	145107.88	145107.88	145107.88
Average capital cost	145107.88	145107.88	145107.88	145107.88	145107.88

Annual Fixed Charges allowed

(Rs.in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	7618	7618	3799	3799	3799
Interest on Loan	348	333	318	303	288
Return on Equity	10845	9550	8578	7982	7386
Interest on Working Capital	3183	3198	3123	3153	3187
O&M Expenses	10098	10728	11400	12114	12874
Compensation Allowance	84	84	84	84	84
Total	**32176**	**31510**	**27302**	**27435**	**27618**

Present Petition

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

> *"8. Truing up*
>
> *(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:*
>
> *Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17."*

4. The Petitioner vide its affidavit dated 24.10.2019, has filed the present Petition for truing up of tariff of the generating station for the 2014-19 tariff period, in terms of Regulation 8(1) of the 2014 Tariff Regulations, and has claimed the capital cost and annual fixed charges as under:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	145107.88	145329.41	146347.05	147199.67	147374.47
Add: Additions during the year	221.53	1017.64	852.62	174.80	548.00
Less: Decapitalization during the year	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
Closing capital cost	145329.41	146347.05	147199.67	147374.47	147922.47
Average capital cost	145218.65	145838.23	146773.36	147287.07	147648.47

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	7624	7657	3795	3795	3795
Interest on Loan	348	333	318	303	288
Return on Equity	13077	9688	8897	8404	7901
Interest on Working Capital	3443	3409	3339	3373	3411
O&M Expenses	10192	10823	11502	12226	13038
Compensation Allowance	84	84	84	84	84
Total	**34768**	**31994**	**27936**	**28184**	**28517**

5. The Respondent, TANGEDCO and Respondent KSEB have filed their replies vide affidavits dated 6.11.2020 and 20.7.2021, respectively. The Petitioner has filed its rejoinder affidavits, to the said replies, on 27.5.2021 and 23.8.2021 respectively. This Petition, along with Petition No. 384/GT/2020 (tariff of the generating station for the 2019-24 tariff period) were heard through video conferencing on 30.11.2021 and the Commission, after directing the Petitioner, to submit certain additional information, reserved its order in this petition. In compliance to the directions, the Petitioner has filed the additional information vide affidavit dated 19.1.2022, after serving copies to the Respondents. However, as the order in the petition could not be passed, prior to the Chairperson Shri P.K. Pujari demitting office, the Petition was re-listed and heard through virtual hearing, on 24.6.2022 and the Commission reserved its order in the petition. Based on the submissions of the parties and documents available on record and after prudence check, we proceed for truing up the tariff of the generating station,

in this petition, as stated in the subsequent paragraphs.

Capital Cost

6. 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 under:

"(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 Regulations 14;
c. expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15;
xxxx"

7. As against the closing capital cost of Rs. 145107.88 lakh, on cash basis, as on 31.3.2014, approved vide order dated 4.10.2016 in Petition No. 254/GT/2016 and corrigendum order dated 18.11.2016, the Petitioner has claimed the annual fixed charges for the 2014-19 tariff period, based on the closing capital cost of Rs.145107.88 lakh, as on 31.3.2014. Accordingly, the closing capital cost of Rs. 145107.88 lakh allowed, as on 31.3.2014, on cash basis, has been considered, as the opening capital cost, as on 1.4.2014, for truing up of tariff of the generating station, for the 2014-19 tariff period.

Additional Capital Expenditure

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

"14. Additional Capitalization and De-capitalization:

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

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

(ii) Works deferred for execution;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of powerhouse attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

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

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

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

(4) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the vale of gross fixed asset and corresponding loan as well as equity shall be deducted from the outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."

9. The Commission vide its order dated 4.10.2016 in Petition No. 254/GT/2014 had not allowed any additional capital expenditure for the 2014-19 tariff period. However, the Petitioner, in the present petition, has claimed additional capital expenditure for the 2014-19 tariff period, based on auditor certified statement, as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Common Assets	265.00	1188.00	1075.00	317.00	618.00
Direct Assets claimed	221.53	1017.33	852.30	174.80	548.49

10. Based on the decision of the Commission in previous orders, the Petitioner has submitted the details of the Common Assets. However, the Petitioner has not considered the additions of Common asset in capital cost for the purpose of tariff. The Commission vide ROP of the hearing dated 30.11.2021, directed the Petitioner to submit revised Form 9A, clearly mentioning the sub-clauses of the Regulation under which the additional capital expenditure has been claimed. In response, the Petitioner vide its affidavit dated 19.1.2022 has submitted the revised Form 9A along with the break-up details of the additional capital expenditure claimed towards direct asset for the period 2014-19 as under:

(Rs. in lakh)

Regulations	2014-15	2015-16	2016-17	2017-18	2018-19
14(3)(ii)	75.14	0.00	7.14	5.74	147.18
14(3)(iii)	146.39	1017.33	845.16	139.40	401.31
14(3)(iv)	0.00	0.00	0.00	29.65	0.00
Total	**221.53**	**1017.33**	**852.30**	**174.80**	**548.49**

11. The Respondent TANGEDCO and Respondent KSEB have submitted that the additional capital expenditure claimed by the Petitioner do not fall under Regulation 14(3)(i) to Regulation 14(3)(iv) of the 2014 Tariff Regulations. In response, the Petitioner has submitted that the additional capital expenditure has been incurred on the items which are essential for the generating station and are in accordance with the provisions of Regulations 14(3) of the 2014 Tariff Regulations. We now examine the claims of the Petitioner as stated in the subsequent paragraphs.

Direct Assets

2014-15

12. The Petitioner has claimed the following additional capital expenditure towards 'Direct Assets' under Regulation 14(3)(ii) and Regulation 14(3)(iii) of the 2014 Tariff Regulations, in 2014-15 as under:

(Rs. in lakh)

Sl. No.	Head of Work / Equipment's	Amount claimed
1	Dual port Modbus plus for dm plant	2.72
2	10 nos. of 2.0 - Ton split ac with stabiliser	4.58
3	Temperature Bath	0.56
4	Online Effluent Analyser for measurement of PH	18.90
5	Inverter based portable welding machine	0.48
6	Portable welding machine	0.22
7	10 nos. of 3.0 Ton AC	10.07
8	RCC Sewage Treatment Plant	49.57
9	Caustic Recirculation Pump	1.29
10	Radar level transmitter for bunker level	10.13
11	Manufacturing, Supply and Erection commissioning of 50kg magnetic separator	51.00
12	Sinha make 5/ton electrical winch	15.83
13	Numerical relay for distance protection	6.57
14	Wall mounted LCD projector	1.11
15	Portable LCD projector	1.15
16	1 no. each of PC, printer	0.77
17	Viscometers with calibrator	0.43
18	Sample cell, lamp assembly	0.97
19	Multifunctional scanner	0.30
20	Supply & Commissioning Surveillance camera	14.31
21	Water filter / R O System	0.10
22	Deep Freezer Canteen	0.30
23	Mixer Grinder	0.16
24	Retrofitting of 6.6 kV Breakers 6 No's	30.00
	Total	**221.53**

Items claimed under Regulation 14(3)(ii) of the 2014 Tarff Regulations

Online Effluent Analyser for measurement of PH

13. The Petitioner has claimed additional capital expenditure of Rs. 18.90 lakh in 2014-15. In support of its claim, the Petitioner has submitted that the State Pollution Control Board recently issued directions vide proceedings No. JCEE / TNPCB / TRY / CUD - 016 / RL Z2013 dated 4.3.2014, to install the Online Effluent quality and quantity Monitoring system, at the outlet of the effluent treatment plants/ sewage treatment systems, of the industry, for the measurements of parameters like Flow, PH, BOD, COD and TSS. It has also submitted that these signals have to be uploaded to the Centre and State Pollution Control Board servers.

14. We have examined the matter. It is observed that the Online Effluent analyser for measurement of PH, is necessary for measurement of parameters like Flow, PH, BOD,

COD and TSS and the same is based on the directions/order of the State i.e Tamil Nadu Pollution Control Board. In view of this, the claim of the Petitioner, is **allowed**.

RCC Sewage Treatment Plant

15. The Petitioner has claimed additional capital expenditure of Rs. 49.57 lakh in 2014-15, toward the Construction of RCC Sewage Treatment Plant (STP). In justification for the same, the Petitioner has submitted that the Sewage Treatment Plant was constructed in compliance to the directions of Statutory authorities. It has also submitted that as the additional capital expenditure has been incurred towards the fulfilment of a statutory requirement, the claim may be allowed. The matter has been examined. It is observed that though the Petitioner has stated that the expenditure incurred is towards the fulfilment of a statutory requirement, it has not furnished the details of the statutory authority who directed the Petitioner to construct the RCC for Sewage Treatment Plant. The Petitioner has also not demonstrated as to how the additional capital expenditure incurred fall within the scope of change in law. In view of this, the additional capital expenditure claimed towards the Construction of Sewage Treatment Plant is **not allowed.**

Numerical Relay for Distance Protection

16. The Petitioner has claimed additional capital expenditure of Rs. 6.57 lakh in 2014-15 towards the Purchase of Numerical Relay for Distance Protection. In justification for the same, the Petitioner has submitted that in the current protection scenario, static micro-mho relays have become obsolete, and the manufacturer has stopped production of the same. It has also submitted that modern numerical relays are multifunctional and are more reliable in providing protection, control and real time monitoring of transmission lines with SCADA compatibility. The Petitioner has further submitted that during protection audit carried out by SRPC, it was recommended to replace the existing

static relays with reliable numerical version distance protection relays and hence the same were purchased. The matter has been examined. In our considered view, since the equipment is necessary for the protection of the system and has been purchased based on the recommendation of SRPC, the claim of the Petitioner is **allowed**. However, as the Petitioner has not submitted the de-capitalization of the old asset, the de-capitalization value of old replaced assets/ works has been considered under Assumed deletions.

Water Filter / RO System

17. The Petitioner has claimed additional capital expenditure of Rs. 0.10 lakh in 2014-15, towards the Purchase of Water Filter and RO System. In justification for the same, the Petitioner has submitted that to provide pure drinking water to all the employees working in the generating station, and in the interest shown in the wellness of the employees, the same was purchased. It has also submitted that to facilitate Industrial relations and also to maintain the morale of the employees, the water filters were purchased. We have examined the matter. In our view, the claim of the Petitioner does not fall within the scope of Regulation 14(3)(ii) of the 2014 Tariff Regulations, as the expenditure incurred is not based on any change in law event or for compliance with the existing law. However, as the expenditure for minor assets are not allowed to be capitalised, after the cut-off date of the generating station, in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations, the same is **not allowed**.

Items claimed under Regulation 14(3)(iii) of the 2014 Tariff Regulations

Radar Level Transmitter for Bunker level

18. The Petitioner has claimed additional capital expenditure of Rs. 10.13 lakh in 2015-16, towards the Purchase of Radar level transmitter, for Bunker level. In justification of the same, the Petitioner has submitted that the transmitter in one silo has failed and

needs immediate replacement. It has also submitted that in the other silo, it has started giving problems frequently and may fail at any time. The Petitioner has stated that the level of the silo is monitored only by these LTs and any failure will affect the ash conveyed to outside sources. The matter has been examined. Though the Petitioner has claimed additional capitalisation of this item/asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not furnished any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure through the Compensation allowance allowed to the generating station.

Manufacturing Supply and erection commissioning of 50kg magnetic separator

19. The Petitioner has claimed additional capital expenditure of Rs. 51.00 lakh in 2014-15 towards the Supply, Erection and Commissioning of 50 kg magnetic separator. In justification of the same, the Petitioner has submitted that the Magnetic separators are installed in LHS conveyor system, for separating magnetic materials from lignite. The Petitioner has also submitted that the said asset/item is an essential requirement for the sustained operation of the system, and hence the same is being procured. The matter has been examined. Though the Petitioner has claimed additional capital expenditure of the item/asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. In view of this, the claim of the Petitioner is **not allowed**.

Supply and Commissioning of Surveillance Camera

20. The Petitioner has claimed additional capital expenditure of Rs. 14.31 lakh in 2014-

15 towards the Supply and Commissioning of surveillance camera. In justification of the same, the Petitioner has submitted that the Surveillance camera has been procured to monitor movements at the vantage points of the thermal power station. The Petitioner has further submitted that the same is a statutory requirement and hence the asset has been procured. Though the Petitioner has claimed additional capital expenditure of the item/asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. In view of this, the claim of the Petitioner is **not allowed**.

Other Items

21. Apart from above expenditure, the Petitioner has claimed additional capital expenditure of Rs. 70.95 lakh in 2014-15 for items like Dual port Modbus plus for DM plant, 10 nos. of 2.0-ton split ac with stabiliser, Temperature bath, Inverter based portable welding machine, Portable welding machine, 10 nos. of 3.0 tr AC, Caustic recirculation pump, Sinha make 5/ton electrical winch, Wall mounted LCD projector, Portable LCD projector, 1 no. Each of PC, printer, Viscometers with calibrator, Sample cell, lamp assembly, Multifunctional scanner, Deep Freezer canteen, Mixer Grinder and Retrofitting of 6.6 kV Breakers 6 No's. Keeping in view that the additional capital expenditure incurred is towards assets which are of minor nature and not allowable after the cut-off date of the generating station, the same is not allowed in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations.

2015-16

22. The Petitioner has claimed the following additional capital expenditure in 2015-16 under Regulation 14(3)(iii) of the 2014 Tariff Regulations as under:

(Rs. in lakh)

Sl. No.	Head of Work / Equipment’s	Amount claimed
1	Shed for Boiler maintenance	7.11
2	High pressure Heater	242.96
3	Portable open well submersible pump	0.83
4	Electric tow truck	4.63
5	Motorola make VHF walkie talkie	4.83
6	Radar level Transmitter	9.64
7	Personal computers with printer	18.15
8	1000gpm 150m submersible pump	25.28
9	1000gpm 150m submersible pump	25.28
10	Temperature bath	1.37
11	Split type ac-10 nos	4.74
12	Whirlpool Refrigerator	0.24
13	Refrigerator 180 lts	0.13
14	2 ton. cap. split ac with stabiliser	0.45
15	RCC road from fire station to silo	39.05
16	Air washer unit of TG hall in both units of A&B side	44.14
17	A01/main plant value addition	588.50
	Total	**1017.33**

Items claimed under Regulation 14(3)(iii) of the 2014 Tariff Regulations

Portable open well Submersible Pump

23. The Petitioner has claimed additional capital expenditure of Rs. 51.39 lakh towards the Procurement of submersible pump. In justification of the same, the Petitioner has submitted that the portable open well submersible dewatering pump, is required for dewatering of mill pit and drains for maintenance works. The Petitioner has further submitted that as the said asset is required to facilitate the smooth functioning of the system, the same has been procured. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for Rs 420.00 lakh for the 2014-19 tariff period, the Petitioner may

meet the said expenditure from the Compensation Allowance allowed to the generating station.

High Pressure Heater

24. The Petitioner has claimed additional capital expenditure of Rs. 242.96 lakh in 2015-16 towards the Procurement of high-pressure heater. In justification of the same, the Petitioner has submitted that HP heaters in the regenerative feed water system is very important to preheat the feed water up to 241 °C using the heat content of the steam extracted from turbine and thus, the quantity of fuel that would be required to raise the temperature of feed water to this level is saved. The Petitioner has also submitted that due to the non-availability of HP heater-6, the other HP heater-7, is getting overloaded and on the whole, the efficiency of the system is getting affected. The Petitioner has therefore submitted that it is essential to bring High pressure heater 6 into service in Unit-1 and hence the procurement. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. In view of this, the claim of the Petitioner is **not allowed.**

Radar Level Transmitter

25. The Petitioner has claimed additional capital expenditure of Rs. 9.64 lakh in 2015-16 towards the Purchase of Radar level transmitter for Bunker level. In justification of the same, the Petitioner has submitted that the transmitter in one silo has failed and needs immediate replacement. It has also submitted that in the other silo, it has started giving problems frequently and may fail at any time. The Petitioner has further submitted that the level of the silo is monitored only by these LTs and any failure will affect the ash

conveyed to outside sources. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for Rs 420.00 lakh for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Air washer unit of TG hall in both units of A&B side

26. The Petitioner has claimed additional capital expenditure of Rs. 44.14 lakh in 2015-16, towards the Supply, Erection and Commissioning of Air washer units of TG hall in both units. In justification of the same, the Petitioner has submitted that internals of Air washer units got damaged and is beyond repair, warranting its replacement, to restore the ventilation system for operation effectively. It has also submitted that the major reason for the damage of the components, made of GI/MS materials, is due to humid atmosphere prevailing always, in the system and obviously due to ageing, as the system has served more than 10 years. Accordingly, the Petitioner has submitted that the supply erection & commissioning of air suction filters, distribution louvers, drift eliminators for the Air washer units of TG hall in both units were carried out for sustaining the performance of the Air washer units, so as to rejuvenate the system for effective operation. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner

is entitled for Compensation Allowance and has claimed the same for Rs 420.00 lakh for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Other Items

27. The Petitioner has claimed additional capital expenditure of Rs. 669.20 lakh in 2015-16 towards items like Shed for Boiler maintenance, Electric tow truck, Motorola make VHF walkie talkie, Personal computers with printer, Temperature bath, Split type ac-10 nos, Whirlpool Refrigerator, 2 ton. cap. split ac with stabiliser, RCC road from fire station to silo and A01/main plant value addition. As the additional capital expenditure claimed by the Petitioner is in respect of assets which are minor in nature, and not allowable after the cut-of date of the generating station, the claim of the Petitioner **is not allowed**. It is also observed that the Petitioner, under main plant value addition, has claimed certain assets for which no detailed justification and bifurcation has been made available. In view of these, the claim of the Petitioner is **not allowed**.

2016-17

28. The Petitioner has claimed the following additional capital expenditure under Regulation 14(3)(ii) and Regulation 14(3)(iii) of the 2014 Tariff Regulations in 2016-17 as under:

(Rs. in lakh)

Sl. No.	Head of Work / Equipment's	Amount claimed
1	LG large video screen for DCS HMI 8 No.s	16.00
2	Online Phosphate analyser	6.67
3	2.0 tr cap.3 star split AC	5.73
4	Supply, programming of walkie talkie sets	4.43
5	Empty gas cylinder	0.69
6	ABT Static Energy meter 1 amp	1.66
7	ABT Static Energy meter 1 amp	1.05
8	PH meter (battery operated)	1.09
9	Digital PH meter 1 no.	1.43
10	ABT Static meter 1 amp	1.11

Sl. No.	Head of Work / Equipment's	Amount claimed
11	ABT Static meter 1 amp	3.32
12	Stretcher wheeled	0.14
13	Wheelchair folding type	0.06
14	Examination couch	0.07
15	Supply erection 25 amp	4.29
16	16 mtr. High mast light	12.31
17	Supply laying drinking water lines	18.47
18	26 nos. IR HD fixed cam	88.44
19	Software installation	3.79
20	Microprocessor based calorimeter	18.89
21	Analytical electronic balance	3.01
22	Purchase of masala powder grinder	0.41
23	Purchase of power wet grinder	0.40
24	Electric dosa tawa size	0.67
25	Supply & Installation of RO UV	0.10
26	Purchase of canteen vessels	0.05
27	Purchase of canteen utensil	0.08
28	Purchase of canteen vessels	0.26
29	Main plant unit value addition	499.49
30	12 - c conveyor	16.44
31	12 - c conveyor	16.44
32	A01/main plant value addition	121.50
33	Purchase of data	3.71
34	Purchase of computer for canteen swiping system	0.11
	Total	**852.30**

Items claimed under Regulation 14(3)(ii) of the 2014 Tariff Regulations

ABT Static Energy Meter 1 AMP

29. The Petitioner has claimed additional capital expenditure of Rs. 7.14 lakh in 2016-17 towards the Purchase of ABT Static Energy Meter–1 AMP. In justification of the same, the Petitioner has submitted that the 0.01Hz step size, ABT Energy meters are fixed in 400kV Switchyard and Main plant metering panels for Energy measurement as per SRLDC requirement. It has also submitted that the meter reading instrument is required to download the energy data from the ABT meter, in a specified format, and upload the data to SRLDC. The matter has been examined. In our view, since the equipment is necessary for energy measurement and has been purchased based on

the recommendations of SRLDC, the claim of the Petitioner is **allowed**. As the Petitioner has not submitted the de-capitalization of the old asset, the de-capitalization value of old replaced assets/ works has been considered under 'Assumed deletions'.

Items claimed under Regulation 14(3)(iii) of the 2014 Tariff Regulations

Online Phosphate Analyser

30. The Petitioner has claimed additional capital expenditure of Rs. 6.67 lakh in 2016-17 towards the Purchase of Online phosphate analyser. In justification of the same, the Petitioner has submitted that in the generating station the recent LP Rotor and HP heaters failures were analysed by the chemical experts from M/s. ASPL. The Petitioner also stated that the team has emphasized for continuous monitoring of water chemistry and the need for Online measurement of some of the samples, which are presently analysed in the Laboratory. The Petitioner has further submitted that one of the recommendations is to provide continuous online Phosphate analyser in the Boiler Drum Blow down water for continuous monitoring of Phosphate. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed.** However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Empty Gas Cylinder

31. The Petitioner has claimed additional capital expenditure of Rs. 0.69 lakh in 2016-17, towards the purchase of empty gas cylinder. In justification of the same, the Petitioner has submitted that the R134a empty gas cylinders are essentially required to

evacuate and store R134a Gas from HVAC Chillers while maintenance works are taken up and hence this empty cylinder, is used whenever the chiller is evacuated for maintenance works and thus the same is a capital asset. The Petitioner has submitted that this Air Driven Bolt Tensioning Pump has served since the commissioning and during the last 5 Turbine overhauls and due to ageing, the pump performance got deteriorated and oil leaks observed frequently and accordingly, the desired oil pressure could not be developed by the pump. It has also submitted that as the failure of this pump will affect the progress of the overhaul work, one no. of this device was purchased, as a replacement of the aged device and is therefore a capital asset. The mater has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed.**

High Mast Light

32. The Petitioner has claimed additional capital expenditure of Rs. 12.31 lakh in 2016-17 towards the Purchase of high mast light. In justification of the same, the Petitioner has submitted that erection of high mast lighting will enhance the illumination level of the rear side compound wall and the adjoining vehicle road. The Petitioner has also submitted that the same will facilitate the security personal to perform effective patrolling and there by improve the security of the generating station. It has further submitted that during their inspection, IB team also opined that illumination of the compound walls has to be improved further. The matter has been considered. Since the additional capital expenditure has been incurred by the Petitioner based on the recommendations of IB and as the asset is required for higher security of the generating station, the claim of

the Petitioner is **allowed**.

Supply and laying of Drinking water lines

33. The Petitioner has claimed additional capital expenditure of Rs. 18.47 lakh in 2016-17 towards the Supply and laying of drinking water lines. In justification of the same, the Petitioner has submitted that the asset has been installed to have an alternate, over the ground system, to mitigate the frequent leaks due to ageing of underground pipelines. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Microprocessor based calorimeter

34. The Petitioner has claimed additional capital expenditure of Rs. 18.89 lakh in 2016-17 towards the purchase of microprocessor-based calorimeter. In justification of the same, the Petitioner has submitted that the DM plant & Lab/TPS-I Expansion is carrying out initial Moisture content, Moisture content (Proximate analysis of lignite), Ash content, Volatile Matter and Gross Calorific Value of lignite samples are determined by using calculation method in the generating station/dm plant & lab. It has also submitted that the calorific Value of lignite samples could not be determined accurately by using the calculation method and therefore, the determination of Gross Calorific Value of lignite samples and liquid fuels test should be performed by using the Bomb Calorimeter. The Petitioner has stated that the Bomb calorimeter is a very important

instrument and is essentially required for the determination of Gross Calorific Value lignite samples and liquid fuels, in day to day analysis. It has added that as there is no Bomb calorimeter in the generating station, since inception of the DM Plant & Lab and is urgently needed for compliance towards the statutory requirement, it has proposed to procure 1 (one) number of new fully automatic Isoperibol Bomb calorimeter for DM Plant & Lab. The Petitioner has pointed out that for the calculation of Heat Rate and efficiency of the boiler and power plant, accurate measurement of Gross Calorific Value of the fuel is essential and as per the grid requirements, continuous uploading of calorific value of the fuel may become necessary. It has stated that however, as part of the grid requirement, it may become necessary to continuously determine accurate Gross calorific value of the fuels in order to determine the efficiency, which will have the bearing on the selling cost of power. The matter has been examined. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Other Items

35. The Petitioner has claimed additional capital expenditure of Rs. 788.13 lakh in 2016-17 or items like LG large video screen for DCS HMI 8 Nos, 2.0 tr cap.3 star split AC, Supply, programming of walkie talkie sets, PH meter (battery operated), Digital PH meter 1 No., Stretcher wheeled, Examination couch, Supply erection 25 amp, 26 nos. IR HD fixed cam, Software installation, Analytical electronic balance, Purchase of

masala powder grinder, Purchase of power wet grinder, Electric dosa tawa size, Supply & Installation of RO UV, Purchase of canteen vessels, Purchase of canteen utensil, Purchase of canteen vessels, Main plant unit value addition, 12 - c Conveyor, A01/main plant value addition, Purchase of data and Purchase of computer for canteen swiping system. The matter has been examined. As the additional capital expenditure claimed by the Petitioner is in respect of the assets which are minor in nature and not allowable after the cut-off date of the generating station, the claim of the Petitioner is **not allowed** in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations. The Petitioner has also claimed capitalisation of certain assets under the main plant value addition but has not submitted any detailed justification including the bifurcation of the same. In view of this, the claim of the Petitioner on this count is also **not allowed**.

2017-18

36. The Petitioner has claimed the following additional capital expenditure under Regulation 14(3)(iii) and Regulation 14(3)(iv) of the 2014 Tariff Regulations in 2017-18 are as under:

(Rs. in lakh)

Sl. No.	Head of Work / Equipment's	Amount claimed
1	Construction of ramp for LHS	32.23
2	PSTC - Simulator building	47.29
3	Telescopic loading spout, dust collector	14.83
4	Telescopic loading spout, dust collector	14.83
5	4-wheeler battery operated trolley	4.63
6	Air driven bolt tension	4.18
7	Manual 3-point panel box	0.68
8	Electrically operated hoist	4.51
9	Electrically operated hoist	13.34
10	Battery operated 2 ton	4.22
11	Welding rectifier 600	0.96
12	Thermocouple wire attached	0.43
13	Pan mixture of 300 ltr	9.11
14	A4 multifunctional laser printer	0.17
15	Radar level transmitter	7.07
16	Notebook pc-i5, processer	0.58

Sl. No.	Head of Work / Equipment's	Amount claimed
17	Desktop personal computer	1.04
18	2 tr. cap. high wall mounted split AC	4.49
19	Portable flue gas analyser	3.95
20	UV visible Spectro photometer	4.93
21	Co2type 22.5kg cap. fire extinguisher	0.89
22	Mechanical foam fire extinguisher	0.45
	Total	**174.80**

Items claimed under Regulation 14(3)(iii) of the 2014 Tariff Regulations

Air Driven Bolt Tension

37. The Petitioner has claimed additional capital expenditure of Rs. 4.18 lakh in 2017-18 towards the Purchase of air driven bolt tension. In justification of the same, the Petitioner has submitted that the HP, IP and LP Turbines top and bottom casings, HP/IP coupling, LP/Gen coupling & HP stop valve and IP control valves to casings are connected by elongation stud bolts and these stud bolts are tightened by Hydraulic Bolt tensioning device. The Petitioner has submitted that this method provides accurate means of tightening bolts and leak free joints and these bolt tensioning devices utilize high pressure oil to stretch the bolt axially by the exact amount required. It has stated that the high-pressure oil is supplied by an "Air Driven Bolt Tensioning Pump" which will develop a maximum pressure of 25000 psi and that the Air driven pump has served since commissioning and during the last 5 Turbine Overhauls. The Petitioner has further submitted that due to ageing, the pump's performance is getting deteriorated and oil leaks observed frequently and due to this, the desired oil pressure could not be developed by the pump. Accordingly, the Petitioner has submitted that it has procured the Air Driven Bolt Tensioning Pump before commencement of TG overhaul and the same may be allowed. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions,

based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Electrically operated Hoist

38. The Petitioner has claimed additional capital expenditure of Rs. 17.85 lakh in 2017-18 towards the Purchase of electrically operated hoist. In justification of the same, the Petitioner has submitted that the hoist is required for replacing the deteriorated hoist of FD fan motors in Unit-1 and is in the nature of replacement. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. The petitioner has also not indicated as to whether it has claimed the same in the capital spares claimed for the 2014-19 tariff period. In view of this, the claim of the Petitioner under this head, is not allowed.

Radar Level Transmitter

39. The Petitioner has claimed additional capital expenditure of Rs. 7.07 lakh in 2017-18, towards the Purchase of Radar level transmitter, for Bunker level. In justification of the same, the Petitioner has submitted that the transmitter in one silo, has failed and needs immediate replacement. It has also submitted that in the other silo, it has started giving problems frequently and may fail at any time. The Petitioner has stated that the level of the silo is monitored only by these LTs and any failure will affect the ash conveyed to outside sources. The matter has been examined. Though the Petitioner has claimed additional capitalisation of this item/asset under Regulation 14(3)(iii) of the

2014 Tariff Regulations, it has not furnished any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure through the Compensation allowance allowed to the generating station.

Fire Extinguisher

40. The Petitioner has claimed additional capital expenditure of Rs. 1.33 lakh in 2017-18 towards the Purchase of CO2 types and mechanical foam type fire extinguisher. In justification of the same, the Petitioner has submitted that to handle situations of fire around the turbo-generator bearings and electrical fires in the turbo generator floor, these higher capacity fire extinguishers were purchased under capital budget for positioning them in the 15 m level in quickly accessible locations around the turbo generators. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Items claimed under Regulation 14(3)(iv) of the 2014 Tariff Regulations

Telescopic loading spout, dust collector

41. The Petitioner has claimed additional capital expenditure of Rs. 29.65 lakh in 2017-18 towards Telescopic loading spout, dust collector. In justification of the same, the

Petitioner has submitted that Dry ash disposal is done by Dry ash handling by pneumatic conveying into concrete silos and the collected Dry fly ash is taken by Cement factories, Brick manufacturing, Petitioner's pre-cast division & others.

42. The Petitioner has also submitted that daily average quantity of dry ash disposed is 500 Tonnes and there are 2 nos. of concrete silos for collection of fly ash, installed as part of the ash handling plant package. The Petitioner has further submitted that previously fly ash from each silo is loaded in to closed body truck from a tarpaulin chute connected to the silo bottom through Pneumatic air slide and one manual slide gate exists at bottom of each silo, for air venting of the silo. It has stated that heavy fly ash dust escaping along with air during truck loading operation, which was causing a serious pollution problem in the entire ash silos area and the ash spread during loading periods enter freely everywhere into Air compressor room and Ash slurry pump house, leading to more outages of equipment's including overhead cranes, inside as well as polluting the surroundings.

43. The Petitioner has stated that the existing Silo venting system by Silo top vent fans are only for venting out air that was allowed inside Silo, along with ash during Pneumatic ash conveying from ESP hoppers to Silos. The silo ventilation is to maintain properly without polluting the atmosphere as well as without any disturbance in ash conveying. From Silo bottom dry ash is unloaded into trucks. Dense mixture of ash and air jets out from trucks while ash loading from silo due to the inadequate air venting systems in trucks. This jet of ash and air mixture will create a disturbance in Silo vacuum if routed back into Silo. Any fresh disturbance in Silo ventilation during ash loading in trucks will affect ash conveying into Silos. Concept of "Telescopic Loading Spout with Inline Dust Collectors" was planned to be implemented to avoid air pollution around Silos during loading of ash into trucks without creating any disturbance in the existing Silo venting

system.

44. The Petitioner has also stated that Compact filters which work on the principle of pulse cleaning of independent back filters inside these modules are placed above telescopic chutes in some designs. Hence "Telescopic Loading Spout with Inline Dust Collectors" were erected and commissioned in both sides. After modification, now in the both Silo's- 1&2 ash is being unloaded through these telescopic spouts with CFM and found "No Visible Emission of Fly Ash Dust" and No fugitive emissions during the loading the operation. "Clean Air" is being discharged from the exhaust of the Air Blower/Fan.

45. The matter has been examined. Considering the fact that the additional capital expenditure has been incurred for the said asset which is considered important for the utilization of ash and keeping in view that same has been deferred for execution and are within the original scope of work, the claim of the Petitioner is **allowed** under Regulation 14(3)(iv) of the 2014 Tariff Regulations.

Other Minor Items

46. The Petitioner has claimed additional capital expenditure of Rs. 114.70 lakh in 2017-18 for items like Construction of ramp for LHS, PSTC - Simulator building, 4-wheeler battery operated trolley, Manual 3-point panel box, Electrically operated hoist, Battery operated 2 ton, Welding rectifier 600, Thermocouple wire attached, Pan mixture of 300 ltr, A4 multifunctional laser printer, Radar level transmitter, Notebook PC-i5, processer, Desktop personal computer, 2 tr. cap. high wall mounted split AC, Portable flue gas analyser and UV visible Spectro photometer. The Petitioner has submitted its justification for claiming the same. As the additional capital expenditure has been incurred for assets which are minor in nature, the claim of the Petitioner, after the cut-

off date of the generating station is **not allowed** in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations.

2018-19

47. The Petitioner has claimed the following additional capital expenditure under Regulation 14(3)(ii) and Regulation 14(3)(iii) of the 2014 Tariff Regulations in 2018-19 as under:

(Rs. in lakh)

Sl. No.	Head of Work / Equipment's	Amount claimed
1	4-wheeler battery operated platform trolley	4.63
2	Automatic fire detection and alarm system	147.18
3	Battery operated platform Trolley 2 no.	13.30
4	TPS 1 EXP_UPS for two battery banks	3.40
5	TPS 1 EXP _UPS for two battery banks	3.48
6	Electric chain hoist travelling trolley	16.53
7	TPS 1 EXP_Infrared imaging camera measure 0 to 250	2.57
8	TPS 1 EXP _EMS monitoring system	33.26
9	TPS 1 EXP _Ring Main Unit	32.00
10	Water cooled vulcanising equipment 1 no.	17.11
11	Electrostatic liquid cleaner machine 1 no	3.23
12	Electrically operated boiler MTCE platform 2 nos.	45.28
13	Battery operated air circulating boom	33.92
14	Radar level transmitter for bunker	7.00
15	Electrically operated wire rope hoist	3.37
16	A01/main plant/unit 2	59.49
17	Main plant unit 1	63.96
18	Supply of VRLA battery bank and 200ah 220	7.44
19	TPS 1 EXP 1 HP submersible pump	0.34
20	TPS 1 EXP 2 HP submersible pump	0.47
21	Fire water pump kirloskar make 1 no.	26.72
22	TPS 1 EXP Chair single seater 2 nos.	0.07
23	TPS 1 EXP Table 4 nos.	0.20
24	TPS 1 EXP Podium 1 no.	0.03
25	TPS 1 EXP Chair slimline HB 6 nos.	0.26
26	TPS 1 EXP Rubber bladders 50 nos.	0.08
27	TPS 1 EXP 5-seater chair 27 nos.	4.19
28	TPS 1 EXP 4-seater chair 2 nos.	0.25
29	TPS 1 EXP -Optical fingerprint sensor 1 no.	0.23
30	TPS 1 EXP- Digital dissolved oxygen meter	0.88
31	TPS 1 EXP -Digital flame photo meter 1 no.	0.52
32	TPS 1 EXP Desktop personal computer	1.69

Sl. No.	Head of Work / Equipment's	Amount claimed
33	TPS 1 EXP 0.6kVA ups line interactive type	0.06
34	TPS 1 EXP Scanner A4 size	0.12
35	TPS 1 EXP Epson l 380 printer	0.31
36	HD webcam pro stream 1080p camera	0.24
37	Dell power edge R730 server, monitor 1	5.60
38	Laser jet printer A4 11 nos.	1.78
39	RO plants with chiller units 3 nos.	5.49
40	RO plants with chiller units 1nos.	1.83
	Total	**548.49**

Items claimed under Regulation 14(3)(iii) of the 2014 Tarff Regulations

4-wheeler battery operated platform trolley

48. The Petitioner has claimed additional capital expenditure of Rs. 4.63 lakh in 2018-19 towards the Purchase of 4-wheeler battery operated platform trolley. In justification of the same, the Petitioner has submitted that for regular maintenance and emergency breakdown works, various Spares situated at various locations like control valves, displacer type level switches, transmitters, damper actuators etc., are to be transported from C&I lab to site locations. It has also submitted that many number of spares are to be drawn from sub-store for regular maintenance work, for check measurement and return and workstation spares are moved from C&I Store to other auxiliary areas like LHS, AHS and DM plant. Instrumentation cables of length 50 mtrs or more, at a time, is drawn for regular maintenance work or modification work. The Petitioner has further submitted that at present, these materials are transported to respective locations, most of the time manually or borrowing trolley from electrical division which is almost occupied for their division works. Since many of these spares are located at considerable distance from service building, transportation of these materials manually incurs much difficulty and consumes more time and resulting in time and cost overrun of the labor involved. In this context, the Petitioner has stated that the usage of a battery powered industrial platform trolley will reduce the transportation time and help to

complete the maintenance work early and efficiently and the same will reduce the overall downtime and enhance the availability of these critical spares at right time. It has also submitted that considering the high quantum of work and critical nature of these spares, it is essential to procure the material. Moreover, the usage of battery powered trolley is environmentally friendly. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Automatic fire detection and alarm system

49. The Petitioner has claimed additional capital expenditure of Rs. 147.18 lakh in 2018-19 towards the Purchase of automatic fire alarm detection and alarm system. In justification of the same, the Petitioner has submitted that Automatic fire detection and alarm system was commissioned in LHS area to monitor the fire. Considering the nature of the asset and its requirement for the safety and security of the generating station as well employees working in the generating station the Commission by exercising its regulatory power has **allowed** the expenditure on account of Automatic fire detection and alarm system.

EMS Monitoring System

50. The Petitioner has claimed additional capital expenditure of Rs. 33.26 lakh in 2018-19 towards the purchase of EMS Monitoring system. In justification of the same, the Petitioner has submitted that ABT system are in the operation in the generating station

from the date of COD. It has stated that initially the monitoring system was developed and maintained by amateur in – House developed software program, with the norms of frequency band width for 49.0 Hz to 50.1 Hz. Based on norms approved by the Commission and amendment in the grid operation like Declaration, Schedule, DSM the Commission has revised the regulation with the frequency bandwidth of 49.7 Hz to 50.05 Hz with the frequency step of 0.01 Hz from 14.02.2014 and therefore, new software ABT system was procured and commissioned since June, 2018. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Ring Main Unit

51. The Petitioner has claimed additional capital expenditure of Rs. 32.00 lakh in 2018-19 towards the Purchase of Ring main unit. In justification of the same, the Petitioner has submitted that the 11 KV ring main system is being used to provide power supplies to service and drinking water bore well pumps. It has also submitted that there are 6 Nos of 11KV outdoor type HT kiosks available in the ring main system to feed 12 Nos of bore well pumps and due to aging and continuous service the doors and roofs of all the above HT kiosks have been rusted. The Petitioner has further submitted that the doors of the panel doors could not be closed leading to the entry of lizards, snakes etc. resulting in the tripping of the bore well system and difficulties have been experienced

to resume the supply after each tripping/stoppage due to unreliable operation of the VCB's. It has stated that to carrying out maintenance works in the HT kiosk has become difficult, since the spares are not readily available in the market and as such 3 Nos of new SF6 gas filled RMU's have to be purchased to replace the old kiosks in first phase to improve the reliability and safety. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Water cooled vulcanizing Equipment

52. The Petitioner has claimed additional capital expenditure of Rs. 17.11 lakh in 2018-19, towards the Purchase of water-cooled vulcanizing equipment. In justification of the same, the Petitioner has submitted that Lignite Handling System receives lignite from Mines and transfers to the boiler bunkers through series of belt conveyors and screen & crusher. It has submitted that the conveyor belt of size 1500mm width around 5360 mts with 48 (approx) joints are in service in both internals as well as external conveyor system and as such only one equipment is available to carry out hot vulcanizing for 1500mm width belt. The Petitioner has stated that due to aging of conveyor belt and vulcanizing joints failure, the replacement of belt/repair work in joint is warranted and frequency of works is increasing day by day and at present, the works are carried out at various location like JT1, conveyors 11,12,13 A&B with the available one equipment, and it is found much difficult to shift the vulcanizing equipment to all those above location, at a time, and it consumes more time, whenever two joints are planned even

in same conveyor and it is possible to complete the joint work one by one only because of availability of single equipment. The Petitioner has further stated that the available vulcanizing equipment is the conventional type, during the process of vulcanizing after reaching curing temperature the platens to be cooled before the pressure is released. And this cooling process takes approximately 3 hours by natural air cooling. It has stated that now water-cooled vulcanizing equipment is available in the market, in water cooled platen (Water will be admitted inside the platens) and the cooling time is reduced to approximately 30 minutes and this process will ensure that the belt can be taken for service in less than half time required for vulcanizing with conventional equipment, thereby reducing the down time of belt conveyor and the availability will be increased. Accordingly, the Petitioner has submitted that water-cooling arrangement is preferable over the conventional type Vulcanizing equipment and the claim may be allowed. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Radar Level Transmitter

53. The Petitioner has claimed additional capital expenditure of Rs. 7.00 lakh in 2018-19 towards the Purchase of Radar level transmitter for Bunker level. In justification of the same, the Petitioner has submitted that the transmitter in one silo has failed and needs immediate replacement and in the other silo, it has started giving problems

frequently and may fail at any time. It has stated that the level of the silo is monitored only by these LTs and any failure will affect the ash conveyed to outside sources. The matter has been examined. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Supply of VRLA Battery Bank and 200 AH

54. The Petitioner has claimed additional capital expenditure of Rs. 7.44 lakh in 2018-19 towards the Purchase of VRLA Battery Bank. In justification of the same, the Petitioner has submitted that in Lignite handling system, 220V DC supply is used for the control and production circuits of all the switchgear panels and field protective devices such as pull chord switches, belt sway switches etc. It has stated that in the existing arrangement, a 220V DCDB is installed in LHS SS-1 switch gear room, from where outing feeders are connected to 6.6kV Switchgear, 0.4kV PCCs, MCCs and PDB panels located at SS-1, SS-2 and JT1. Two more outgoing feeders are connected incoming 220V DC supply for the LHS DCDB is fed from two feeders of station DC system located at 10.5 m level in main plant. The Petitioner has stated that in LHS and AHS, the environment in most of the areas such as local JBs, local panels, and cable galleries is dusty and hence the dustges settled inside the local JBs and field switches, thereby causing earth fault in the 220V DC system. The Petitioner has stated that since the DC supply is derived from main plant, any fault in LHS/AHS DC circuit affects the Main plant

DC supply. The Petitioner has stated that recently, spurious tripping of critical equipment's and failure of relay cards have been experienced due to earth fault in the 220V DC supply and therefore, as a permanent solution to overcome this problem, it has been proposed to introduce separate 220V DC system for LHS and AHS with 200AH capacity Float cum Boost charger and VRLA Battery bank. The matter has been considered. Though the Petitioner has claimed the procurement of this asset under Regulation 14(3)(iii) of the 2014 Tariff Regulations, it has not submitted any details of the statutory authority and its directions, based on which the said expenditure has been incurred along with documentary evidence. Hence, the claim of the Petitioner under this head, is **not allowed**. However, as the Petitioner is entitled for Compensation Allowance and has claimed the same for the 2014-19 tariff period, the Petitioner may meet the said expenditure from the Compensation Allowance allowed to the generating station.

Other Minor Items

55. The Petitioner has claimed additional capital expenditure of Rs. 299.89 lakh in 2018-19 on account of items like UPS for two battery banks, Electric chain hoist travelling trolley, Infrared imaging camera measure 0 to 250, Electrostatic liquid cleaner machine 1 no, Battery operated air circulating boom, Radar level transmitter for bunker, Electrically operated wire rope hoist, A01/main plant/unit 2, HP submersible pump, Fire water pump kirloskar make 1 no, chair single seater 2 nos, Table 4 nos., Podium 1 no., Chair slimline HB 6 nos, Rubber bladders 50 nos., 5-seater chair 27 nos, 4-seater chair 2 nos, Optical fingerprint sensor 1 no., Digital dissolved oxygen meter, Digital flame photo meter 1 no., Desktop personal computer, 0.6kVA ups line interactive type, Scanner A4 size, Epson l 380 printer, HD webcam pro stream 1080p camera, Dell power edge R730 server, monitor 1, Laser jet printer A4 11 nos., and RO plants with chiller. Considering the fact that the additional capital expenditure has been incurred for

assets which are minor in nature and after the cut-off date, the same is **not allowed** in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations. Also, the Petitioner has claimed capitalisation of certain assets under the main plant value addition, but has not submitted any detailed justification and bifurcation for the same, In view of this, the claim for these assets are also not allowed.

56. Based on the above discussion, the total additional capital expenditure allowed for the period 2014-19 is summarised below:

(Rs. in lakh)

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capitalisation claimed	221.53	1017.33	852.30	174.80	548.49
Additional capitalization allowed	25.47	0.00	19.45	29.65	147.18

Discharges of Liabilities

57. The Petitioner has not claimed any discharge of liabilities corresponding to the assets capitalized.

De-capitalization of Assets

58. The Petitioner has claimed de-capitalization of assets for Rs. 18.03 lakh in 2014-15, Rs. 12.47 lakh in 2015-16, Rs. 22.65 lakh in 2016-17, Rs. 6.55 lakh in 2017-18 and Rs. 8.19 lakh in 2018-19 under Regulation 14(4) of the 2014 Tariff Regulations. The de-capitalization also includes Common asset de-capitalization as shown below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
De-capitalization of Direct Assets	10.96	10.42	1.37	1.54	4.79
De-capitalization of Common assets	7.07	2.05	21.28	5.01	3.40
Total	**18.03**	**12.47**	**22.65**	**6.55**	**8.19**

59. As regards the de-capitalization claimed by the Petitioner for Common assets, it is observed that these were not allowed as additional capitalization and do not form part of the capital cost and therefore, the de-capitalization claimed is not allowed. However, as regards direct assets which form part of the admitted capital cost, the de-

capitalization as claimed by the Petitioner is allowed. The Petitioner has claimed de-capitalization of Rs. 1.01 lakh in 2015-16 towards Epson LQ 1150DM Printers under exclusion. Also, the Petitioner, in 2016-17, has claimed de-capitalization of Rs. 0.85 lakh on account of items like SS Tea Trolley - 1 No, 95 lit SS Wet Grinder, 10 lit SS Wet Grinder-2 Nos, 187.5 lit Galaxy hot pack, 1 heavy duty kenstar mixie, Saram- 2nos, Saram with filter- 2 nos, SS Coffee Can 10 lit, Different blades cutting, Vadi koodai - 1 No, SS Glass - 41 Nos, SS Bucket-2 Nos, Hot pack 25 lit 1 No, SS karandi-12 Nos, SS Annavatti-3, SS Kothusatti 2 Lit 1, SS Kothusatti 1.5LIT, 2 Cup, S.S.Meals Carrier 1 No, S.S. Doosai Thirupp-1, and S.S. Curd Cup 49 Nos under exclusion. On scrutiny, it is observed that the Petitioner has linked these exclusions with the earlier order of the Commission, and it is observed that the exclusions claimed are in the nature of minor assets which were not part of the capital cost. Hence, the de-capitalization of the same is not allowed.

Assumed Deletions

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

(Rs. in lakh)

Sl No.	Details	Additions claimed for new asset on replacement	De-capitalization value of old asset Claimed	Assumed Deletions for old asset Allowed
2014-15				
1	Numerical relay for distance protection	6.57	0.00	3.84
2016-17				
1	ABT Static Energy Meter 1 Amp	7.14	0.00	3.79

61. Accordingly, the De-capitalization allowed is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
De-capitalization of Direct Assets	10.96	9.41	0.52	1.54	4.79
Assumed Deletions	3.84	0.00	3.79	0.00	0.00
Total	**14.80**	**9.41**	**4.31**	**1.54**	**4.79**

Exclusions in deletions (de-capitalized in books but not to be considered for tariff purpose)

62. The Petitioner has de-capitalized the following amounts in books of accounts and has kept the same under exclusion for the purpose of tariff:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Exclusion in deletions	7.07	3.06	22.13	5.01	3.40

63. It is noticed that the above exclusion in deletions are for Common assets and for Minor assets decapitalized. The Common assets and Minor assets are not considered as capital assets and the minor assets are not permitted to be capitalised after the cut-off date. Accordingly, exclusion in deletions for minor assets/ common assets are allowed to be excluded from deletions and are not considered for the purpose of tariff.. Based on the above, the following exclusion in deletions are allowed and not reduced from capital cost for the purpose of tariff.

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
7.07	3.06	22.13	5.01	3.40

Capital cost allowed for the 2014-19 tariff period

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	145107.88	145118.55	145109.14	145124.29	145152.40
Add: Additional Capital Expenditure	25.47	0.00	19.45	29.65	147.18
Less: Decapitalization	10.96	9.41	0.52	1.54	4.79
Less: Assumed Deletion	3.84	0.00	3.79	0.00	0.00
Closing Capital Cost	**145118.55**	**145109.14**	**145124.29**	**145152.40**	**145294.79**
Average Capital Cost	145113.22	145113.85	145116.71	145138.34	145223.60

Debt-Equity Ratio

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

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

Provided that:

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

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

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

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

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

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

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

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

66. As the Commission has considered Net Fixed Asset (NFA) method in the case of the generating stations of the Petitioner, the actual source of funding has been considered for calculating the debt-equity ratio. Accordingly, the net fixed asset details are as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Net Fixed Asset (A)=Opening Capital cost-Cumulative depreciation up to previous year	76963.77	69363.72	61741.24	57958.04	54184.26
Closing Net Fixed Asset (B)=Closing Capital cost-Cumulative depreciation up to current year	69363.72	61741.24	57958.04	54184.26	50519.46
Average Net Fixed Asset (C)=(A+B)/2	73163.74	65552.48	59849.64	56071.15	52351.86
Average Loan (D)(Based on actual)	17850.33	17074.18	16298.03	15521.88	14745.73
Average Equity (E)=C-D	55313.42	48478.31	43551.62	40549.28	37606.13

Note- Cumulative Depreciation up to 31-03-2014 is Rs.68144.11

Return on Equity

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

"24. Return on Equity:

(1) Return on equity shall be computed in rupee terms on the equity base determined in accordance with regulation 19.

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

Provided that:

(i) in case of projects commissioned on or after 1st April 2014 an additional return of 0.50% shall be allowed if such projects are completed within the timeline specified in Appendix-I:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional ROE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee / National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission if the generating station or transmission system is found to be declared under commercial operation without commissioning any of the Restricted Governor Mode Operation (RGMO) / Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirement are found lacking in a generating station based on the report submitted by the respective RLDC ROE shall be reduced by 1% for

the period for which the deficiency continues:

(vi) additional ROE shall not be admissible for transmission line having length of less than 50 kilometres."

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

"25. Tax on Return on Equity:

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

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

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

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

Illustration.

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

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

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

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

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

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

(3) The generating company or the transmission licensee as the case may be shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 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."

69. As the Commission has considered the Net Fixed Asset (NFA) method in the case of the generating stations of the Petitioner, the actual source of funding has been considered for calculating the debt-equity ratio. The Petitioner has claimed tariff

considering the rate of return on equity of 23.599% in 2014-15,19.705% in 2015-18 and 19.758% in 2018-19. The Petitioner has worked out these rates, after grossing up the base rate of return on equity of 15.50% with corporate tax rate of 34.32% in 2014-15, 21.340% in 2015-18 and 21.55% in the year 2018-19. The Petitioner has furnished the effective tax rate for 2014-15, based on the auditor certificate dated 26.8.2019. However, on scrutiny, it is observed that the calculation of effective tax rate, is inclusive of penal interest of Rs. 684.30 lakh and the same has not considered for working out the effective tax rate. Accordingly, the effective tax rate works out to be 33.99%, as considered for the purpose of grossing up for 2014-15. The rate of return on equity to be considered for the purpose of tariff works out to 23.481% 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**
Average Normative Equity (A)	55313.42	48478.31	43551.62	40549.28	37606.13
Return on Equity (Base Rate) (B)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate (C)	33.990%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (D=B/(1-C))	23.481%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) – (annualized) (E= A*D)	**12988.14**	**9552.65**	**8581.85**	**7990.23**	**7430.22**

Interest on Loan

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

"26. Interest on loan capital:

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

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

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

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

depreciation allowed for the year or part of the year.

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

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

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

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

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

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

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

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

71. As the Net Fixed Asset methodology has been considered for the generating station of the Petitioner, the actual loan, the actual repayment and the actual rate of interest has been considered for the purpose of calculation of interest on loan. The weighted average rate of interest on loan @ 1.95% has been considered for the period 2014-19 for calculation of interest on loan as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross opening loan (A)	23673.00	23673.00	23673.00	23673.00	23673.00
Cumulative repayment of loan upto previous year (B)	5434.60	6210.75	6986.90	7763.05	8539.20
Net Loan Opening (C=A-B)	18238.40	17462.25	16686.10	15909.95	15133.80
Addition due to additional capital expenditure (D)	-	-	-	-	-
Repayment of loan during the year (E)	776.15	776.15	776.15	776.15	776.15
Less: Repayment adjustment on account of De-cap (F)	-	-	-	-	-
Net Loan Closing (G=C+D-E+F)	17462.25	16686.10	15909.95	15133.80	14357.65
Average Loan (H=(G+C)/2)	17850.33	17074.18	16298.03	15521.88	14745.73
Weighted Average Rate of Interest of loan (I)	1.9500%	1.9500%	1.9500%	1.9500%	1.9500%

	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan (J=H*I)	**348.08**	**332.95**	**317.81**	**302.68**	**287.54**

Depreciation

72. Regulation 27 of the 2014 Tariff Regulations provides as under:

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

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

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

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

73. The weighted average rate of depreciation claimed as per above regulation is 5.25% and the same has been considered for the period 2014-16, as allowed in order dated 4.10.2016 in Petition No. 254/GT/2014. Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Average Capital Cost (A)	145113.22	145113.85	145116.71	145138.34	145223.60
Value of freehold land included above (B)	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value (C) 90% of (A-B)	130601.89	130602.46	130605.04	130624.51	130701.24
Remaining aggregate depreciable value at the beginning of the year (D)=C-Cumulative Depreciation up to previous year	62457.78	54847.63	47237.14	43458.27	39733.09
Balance useful life at the beginning of the year (E)	14.43	13.43	12.43	11.43	10.43
Weighted Average Rate of Depreciation (WAROD) (F)	5.2500%	5.2500%	-	-	-
Depreciation during the year (G)- (A x F) for the period 2014-16 - (D/E) for the period 2016-19	**7618.44**	**7618.48**	**3800.93**	**3802.86**	**3810.31**
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization)	75762.56	83373.31	87168.83	90969.11	94778.45
Less: Depreciation adjustment on account of de-capitalization	7.73	5.41	2.59	0.97	3.12
Cumulative depreciation at the end of the year	**75754.83**	**83367.90**	**87166.24**	**90968.14**	**94775.33**

Note- Cumulative Depreciation up to 31-03-2014 is Rs.68144.11

Operation & Maintenance Expenses

74. Regulation 29(1)(a) of the 2014 Tariff Regulations specifies following the norms for O&M expenses for the Circulating Fluidised Bed Combustion (CFBC) technology:

(Rs. in lakh)

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

75. The Commission in its order dated 4.10.2016 in Petition No. 254/GT/2014 had allowed following total O&M expenses for the generating station:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	10038.00	10668.00	11340.00	12054.00	12814.20
Water charges allowed under Regulation 29(2)	60.06	60.06	60.06	60.06	60.06
Total O&M expenses allowed	**10098.06**	**10728.06**	**11400.06**	**12114.06**	**12874.26**

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses claimed under Regulation 29(1)(a)	10038.00	10668.00	11340.00	12054.00	12814.20
Water charges claimed under Regulation 29(2)	153.78	155.41	162.15	171.51	224.02
Total O&M expenses claimed	10191.78	10823.41	11502.15	12225.51	13038.22

77. Accordingly, the normative O&M expenses allowed in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations is as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
10038.00	10668.00	11340.00	12054.00	12814.20

Water Charges

78. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

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

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

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

79. The water charges allowed on projected basis, by order dated 4.10.2016 in Petition No. 254/GT/2014 is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
60.06	60.06	60.06	60.06	60.06

80. In terms of the first proviso to Regulation 29(2) of the 2014 Tariff Regulations, the water charges are to be allowed based on water consumption, depending upon type of plant, type of cooling water system etc., subject to prudence check.

81. The Petitioner has claimed water charges consisting of pumping cost incurred by ground water control and storm water control for the year, consent fee payable to Govt. account, water cess payable to Govt. account and personnel charges. The Petitioner has submitted the Auditor certificate for the Water charges claimed for the period 2014-19. The Petitioner has requested permission to fully recover the water charges incurred at actuals from the beneficiaries.

Period	Water Quantity	Pumping charges (Rs. 0.376 / KL)	Water Cess	Water Consent Fee	Personnel Charges	Others if any	Water Charges	Water Charges
	(KL)	(Rs.)	(Rs.)	(Rs.)	(Rs.)		(Rs.)	(Rs. In lakh)
	1	2	3	4	5	6	7=2+3+4+5+6	
2014-15	7752340	2914880.00	1219159	667156	10491920	84749	15377864	153.78
2015-16	7574681	2848080.06	1240570	701263	10700559	50117	15540589	155.41
2016-17	7601249	2858069.62	1287970	701263	11243288	124020	16214611	162.15
2017-18	8190618	3079672.37	303662	701263	12967375	98830	17150802	171.51
2018-19	8467405	3183744.28		1032895	18140910	44300	22401849	224.02

82. The Respondents TANGEDCO and KSEBL have submitted that the Petitioner may be directed to furnish the details in respect of water charges such as contracted quantum of water and allocated quantity, actual annual water consumption for the last 5 years (2014-19) along with the copy of the notification(s) of water charges. Respondent TANGEDCO has also submitted that personnel charges may be disallowed, as the Statement of Objects and Reasons (SOR) to the 2014-19 Tariff Regulations, clearly stipulates that water charges are not inclusive of employee and other testing charges.

83. In response, the Petitioner submitted that it has not been procuring water from outside and is utilizing the aquifer water beneath the lignite seam, which has been pumped out to facilitate lignite extraction. The Petitioner has also submitted that it has claimed only pumping, statutory charges and personnel charges. Accordingly, it has submitted that that the contracted quantum of water is not applicable to the Petitioner. As regards the Personnel charges and other charges, the Petitioner has submitted details of the personnel charges incurred towards the personnel deployed in the raw water group and other charges pertaining to water analysis charges as a part of statutory charges paid to the Tamil Nadu Pollution Control Board (TNPCB).

84. We have considered the submissions of the parties. We are of the view that personnel charges correspond to employee charges, and the same are already covered under the normative O&M expenses allowed to the generating station, under Regulation 29(1)(a) of the 2014 Tariff Regulations. In view of this, the claim of the Petitioner on this count, is not allowed. However, the water charges claimed by the Petitioner is based on the actual water consumption and is in accordance with the auditor certified financial statements for the respective years of the 2014-19 tariff period. Accordingly, water charges as shown below is allowed for the purpose of tariff:

Period	Water Quantity	Pumping charges (Rs. 0.376 / KL)	Water Cess	Water Consent Fee	Others If any	Water Charges	Water Charges
	(KL)	(Rs.)	(Rs.)	(Rs.)		(Rs.)	(Rs. in lakh)
	1	2	3	4		6=2+3+4+5	
2014-15	7752340	2914880.00	1219159	667156	84749	4885944.00	48.86
2015-16	7574681	2848080.06	1240570	701263	50117	4840030.06	48.40
2016-17	7601249	2858069.62	1287970	701263	124020	4971322.62	49.71
2017-18	8190618	3079672.37	303662	701263	98830	4183427.37	41.83
2018-19	8467405	3183744.28	-	1032895	44300	4260939.28	42.61

Capital Spares

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

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

86. In terms of the above-quoted proviso, capital spares consumed are admissible separately, at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares claimed by the Petitioner are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
177.71	923.01	1525.41	460.16	636.81

87. The Petitioner has submitted justification for incurring the expenditure and has clarified that the same has not been funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

88. The capital spares claimed do not form part of the capital cost of the generating station. 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.1.00 lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the Petition, has been considered for the purpose of tariff. Based on this, the details of

capital spares consumption allowed for the 2014-19 tariff period is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	177.71	923.01	1525.41	460.16	636.81
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	0.00	0.00	0.00	0.00	0.00
Net total value of capital spares considered	**177.71**	**923.01**	**1525.41**	**460.16**	**636.81**

89. Further, we are of the view that spares do have salvage value. Accordingly, in line with the practice of considering 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 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	177.71	923.01	1525.41	460.16	636.81
Less: Salvage value @ 10%	17.77	92.30	152.54	46.02	63.68
Net capital spares allowed	**159.94**	**830.71**	**1372.87**	**414.14**	**573.13**

90. Accordingly, the total O&M expenses allowed to the generating station in terms of Regulation 29 of the 2014 Tariff Regulations are as under:

(Rs. in lakh)

		2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	Claimed	10038.00	10668.00	11340.00	12054.00	12814.20
	Allowed	**10038.00**	**10668.00**	**11340.00**	**12054.00**	**12814.20**
Water charges under Regulation 29(2) of the 2014 Tariff Regulations	Claimed	153.78	155.41	162.15	171.51	224.02
	Allowed	**48.86**	**48.40**	**49.71**	**41.83**	**42.61**
Capital spares under Regulation	Claimed	177.71	923.01	1525.41	460.16	636.81
	Allowed	**159.94**	**830.71**	**1372.87**	**414.14**	**573.13**

		2014-15	2015-16	2016-17	2017-18	2018-19
29(2) of the 2014 Tariff Regulations						
Total O&M Expenses Claimed	Claimed	10369.49	11746.42	13027.56	12685.67	13675.03
Total O&M Expenses allowed	**Allowed**	**10246.80**	**11547.11**	**12762.58**	**12509.97**	**13429.94**

Operational Norms

91. The operational norms in respect of the generating station as claimed by the Petitioner are as under:

a) Target Availability of 80%.
b) Gross Station Heat Rate of 2750 kcal/kwh
c) Auxiliary Power Consumption of 8.50%.
d) Specific oil consumption (SFC) of 2.00 ml/kWh

92. The operational norms for the generating station claimed by the Petitioner are in terms of the Regulation 36 of the 2014 Tariff Regulations and are same as allowed in order dated 4.10.2016 in Petition No. 254/GT/2014, accordingly the same is allowed.

93. Further with respect to Specific Oil consumption (SFC), the Petitioner has submitted that, as against the normative specific fuel oil consumption (SFC), the actual specific fuel oil consumption was very high resulting in higher Energy Charge rate (ECR). The Petitioner has further submitted the details of working of difference between the normative SFC and actual SFC and consequent resultant difference in ECR for the above period. The Petitioner has further requested to recover the above financial expenditure due to the force majeure events i.e. heavy rains, flood and inundation in mines and generating station during November 2015, which are beyond the control of the Petitioner, under power to remove difficulties and power to relax.

94. The Respondents TANGEDCO and KSEBL have submitted that the Petitioner has not communicated the force majeure event either to the beneficiary or to the Commission.

95. The matter has been examined. The Petitioner has not substantiated its claim with relevant documents and has also not justified the event of force majeure. Therefore, we are not inclined to relax the operational norm with respect to SFC claimed by the Petitioner. Accordingly, the normative operational parameters claimed by the Petitioner is allowed for the purpose of tariff.

Interest on Working Capital

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

> *"28. Interest on Working Capital:*
> *(1) The working capital shall cover*
> *(a) Coal-based/lignite-fired thermal generating stations*
> *(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*
> *(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
> *(iv) Maintenance spares @ 20% of operation and maintenance expenses* specified in regulation 29;
> *(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*
> *(vi) Operation and maintenance expenses for one month."*

Fuel Cost and Energy Charges in working capital

97. The Petitioner has claimed following cost for fuel components:

a) Lignite and Secondary fuel rates for January 2014, February 2014 and March 2014 were adopted in the computation of interest on working capital and energy charges in respect of the generating station for the period 1.4.2014 to 31.3.2019.

b) The lignite price claimed by the Petitioner in the computation of working capital is as under:

Base price of lignite (Rs. /MT)	1578.00
Additional O&M as per 32/MP/2018 (Rs./MT)	24.92
Total base price (Rs./MT)	1602.92
Royalty @ 6%	96.00
Clean Energy Cess Rs/T	50.00
Average Excise duty paid (Jan 14 to Mar 14)	24.68
Average price of Lignite (January,2014- March, 2014) per tonne	1773.59

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of lignite towards stock	4470.89	4470.89	4470.89	4470.89	4470.89
Cost of lignite towards Generation	2235.44	2235.44	2235.44	2235.44	2235.44
Cost of secondary fuel oil for 2 months	524.83	526.26	524.83	524.83	524.83

Lignite Transfer Price and Energy Charges

98. In case of the generating stations of the Petitioner, the price of fuel for the preceding three months (January, 2014, February, 2014 and March, 2014) would instead be the pooled price of lignite for the year 2013-14. The pooled lignite transfer price for the generating station for the year 2013-14 as approved vide order dated 5.2.2014 in Petition No.167/MP/2011 and order dated 7.5.2015 in Petition No. 68/MP/2013 was Rs. 1610/tonne (This rate is exclusive of clean energy cess w.e.f. 1.7.2010 @ Rs. 50/ Ton and excise duty on lignite and other taxes and duties).

99. The Petitioner had filed Petition No. 149/MP/2015 for truing up of lignite transfer price for the period 2009-14 and the Commission vide order dated 20.3.2017 had directed the Petitioner to revise the pooled lignite transfer price based on the O&M cost of the mines allowed as under:

(Rs. in lakh)

O&M Cost	2009-10	2010-11	2011-12	2012-13	2013-14
Standalone Mines					
Mine-I	44011	48491	53350	58338	64357
Pooled Mines					
Mine-I (Expansion)	26898	29640	32606	35588	39454
Mine-IA	20415.76	22763.57	25381.38	28300.24	31554.77
Mine-II	58619.73	65361	71433	73224	81644.76
Mine-II (Expansion)	-	28012	30614	31382	34990.93

100. Also, in the said order, the Petitioner was directed to work out the lignite transfer price based on actual capacity utilization. The relevant paragraph of the order dated 20.3.2017 in Petition No. 149/MP/2015 is extracted as under:

> *"28. The petitioner has not provided actual capacity utilization in respect of different mines. Para 4.1 of MOC Guidelines dated 11-06-2009 states as follows:*
>
> *4.1 Capacity Utilization*
> *"The existing guidelines of 85% capacity utilization are to be retained, as this is a basis on which projects are formulated and economic evaluation of the project is done. Also capacity utilization is heavily dependent on various mining operational conditions, land availability, space constraints and availability of main mining equipments etc. SEBs had suggested adoption of marginal costing norms for pricing of lignite produced at 85% of capacity utilization, while NLC insisted on retained existing guidelines of 85% capacity utilization. Since inception, mines have achieved mine capacity utilization of less than 85% cumulatively. The performance of mines over its entire life has to be taken into consideration while fixing parameters and should not be based on sporadic performance. The said norms were also the basis on which earlier agreements with SEBs were settled and agreed to by SEBs. Therefore, the extant guidelines shall be retained, as this would also act as an incentive to NLC to achieve higher capacity utilization, which would be in the interest of all stakeholders."*
>
> *As per para 4.1 of the guidelines, 100% O & M cost shall be recovered at 85% capacity utilization. In case the mines have achieved lower capacity utilization, the O & M cost shall be proportionately reduced based on actual capacity utilization and lignite transfer price shall be worked out accordingly. In line with MOC guidelines, we have not gone into the detailed prudence of numbers/values as given in the auditor's certificate. Therefore, the petitioner shall ensure that proportionate reduction in the O & M cost is done in case the capacity utilization is less than 85%.*
>
> *29. The petitioner is directed to calculate the impact on variable charge for the tariff period 2009-14 and in capacity charge during 2014-19 for its different generating stations within three months and adjust the same in the tariff accordingly."*

101. The Petitioner has considered the average price for lignite for January, 2014, February, 2014 and March, 2014 as Rs. 1773.59 per tonne for computation of working capital. However, in case of the Petitioner's generating station, the average price of January 2014, February, 2014 and March, 2014 means the cost of lignite transfer price for the year 2013-14. The Lignite transfer price for the year 2013-14 needs to be considered as per direction of the Commission vide order dated 20.3.2017 in Petition No 149/MP/2015. In the absence of details of the pooled lignite transfer price for the period 2013-14 as per directions of the commission vide order dated 20.3.2017, we have considered the pooled lignite transfer price of Rs.1610/ton for the year 2013-14

(for indicative purpose only) as approved by order dated 5.2.2014 in Petition No.167/MP/2011 and order dated 7.5.2015 in Petition No. 68/MP/2013. However, the final lignite transfer price to be considered for the computation of working capital for the period 2014-19 shall be computed by the Petitioner based on the lignite transfer price for the period 2013-14 as per the direction contained in order dated 20.3.2017 in Petition No. 149/MP/2015. The price & GCV of lignite and secondary oil as adopted by the Commission (for indicative purpose) are as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Price of Lignite (Rs. / Tonne)*	1610.00	1610.00	1610.00	1610.00	1610.00
GCV of Lignite (kCal/kg)	2621.24	2621.24	2621.24	2621.24	2621.24
Price of Secondary fuel oil (Rs./kL)	51352.83	51352.83	51352.83	51352.83	51352.83
GCV of secondary fuel oil (kCal/kg)	9855.98	9855.98	9855.98	9855.98	9855.98

**Subject to revision of lignite transfer price as per direction given by the Commission vide order dated 20.3.2017 in Petition No. 149/MP/2015 (This rate is exclusive of clean energy cess w.e.f. 1.7.2010 @ Rs. 50/ Ton and excise duty on lignite and other taxes and duties).*

102. It is observed that in the preceding 3 months i.e. January, 2014, February, 2014 and March, 2014, the Petitioner has used both the secondary oils, LDO and HFO. From the details submitted by the Petitioner, it is observed that major secondary oil used is HFO. Accordingly, in terms of Regulation 28(1)(a)(iii) of the 2014 Tariff Regulations, in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary oil is to be considered for allowing two months of secondary oil cost in the working capital. Accordingly, the cost of HFO has been considered in the working capital. Based on the weighted average GCV and price of fuels as considered, the cost for fuel components in working capitals and two months of Energy charge works out as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Lignite (45 days generation corresponding to NAPAF)	6085.41	6085.41	6085.41	6085.41	6085.41

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of secondary fuel oil (2 months generation corresponding to NAPAF)	503.83	505.21	503.83	503.83	503.83
Energy Charge for 2 months	8730.37	8754.29	8730.37	8730.37	8730.37

Working capital for Maintenance Spares

103. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provides for Maintenance spares @ 20% of the yearly O&M expenses. Accordingly, maintenance spares have been worked out and allowed as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
2049.36	2309.42	2552.52	2501.99	2685.99

Working capital for Receivables

104. Regulation 28(1)(a)(v) of the 2014 Tariff Regulations provides for Receivables for two months of capacity charges and energy charges for sale of electricity at NAPAF. Accordingly, the Receivable component for working capital is allowed as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Charges – For two months corresponding to generation at NAPAF	8730.37	8754.29	8730.37	8730.37	8730.37
Fixed Charges - For two months corresponding to generation at NAPAF	5739.40	5381.83	4777.41	4629.57	4695.63
Total	**14469.77**	**14136.12**	**13507.78**	**13359.94**	**13426.00**

Working capital for O & M Expenses

105. Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations provides for O&M Expenses for one month. Accordingly, the O&M Expenses for working capital is allowed as follows:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
853.90	962.26	1063.55	1042.50	1119.16

Rate of interest on working capital

106. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the Bank rate of 13.50% as on 1.4.2014, tariff has been considered. Accordingly, Interest on Working Capital has been allowed as follows:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for Cost of Lignite towards Stock (15 days for pit head generating station corresponding to generation at NAPAF)	2028.47	2028.47	2028.47	2028.47	2028.47
Working Capital for Cost of Lignite towards Generation (30 days corresponding to generation at NAPAF)	4056.94	4056.94	4056.94	4056.94	4056.94
Working Capital for Cost of Secondary fuel oil (2 months corresponding to generation at NAPAF)	503.83	505.21	503.83	503.83	503.83
Working capital for O & M expenses (1 month of O&M expenses)	853.90	962.26	1063.55	1042.50	1119.16
Working capital for Maintenance Spares (20% of Annual O&M Expenses)	2049.36	2309.42	2552.52	2501.99	2685.99
Working capital for Receivables- (2 months of capacity charges and energy charges)	14469.77	14136.12	13507.78	13359.94	13426.00
Total Working Capital	**23962.28**	**23998.43**	**23713.09**	**23493.68**	**23820.40**
Rate of Interest	13.500%	13.500%	13.500%	13.500%	13.500%
Interest on Working capital	**3234.91**	**3239.79**	**3201.27**	**3171.65**	**3215.75**

Compensation Allowance

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

> *"17. Compensation Allowance: (1) In case of coal-based or lignite-fired thermal generating station or a unit thereof a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations and in such an event revision of the capital cost shall not be allowed on account of compensation allowance but the compensation allowance shall be allowed to be recovered separately.*
>
> *(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of the useful life.*

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

108. The Commission vide its order dated 4.10.2016 in Petition No. 254/GT/2014 had allowed the Compensation allowance of Rs.84.00 lakh in 2014-19 for the generating station. The date of commissioning of Unit Nos. I and II of the expansion project is 9.5.2003 and 5.9.2003 respectively. Since all the units of the generating station have completed 10 years of operation, the generating station is eligible for Compensation Allowance. Accordingly, in terms of the above regulations, the Compensation allowance is worked out and allowed as under:

Sl. No.		**Unit-I**	**Unit-II**
1.	Capacity in MW	210	210
2.	COD	9.5.2003	5.9.2003
	Useful life as on 1.4.2014	10.90	10.57
3.	Actual useful life		
	a) 10 years	9.5.2013	5.9.2013
	a) 15 years	9.5.2018	5.9.2018
	a) 20 years	9.5.2023	5.9.2023
	a) 25 years	9.5.2028	5.9.2028
		(Rs. In lakh)	
	2014-15	42.00	42.00
	2015-16	42.00	42.00
	2016-17	42.00	42.00
	2017-18	42.00	42.00
	2018-19	42.00	42.00
	Total		**420.00**

Annual Fixed Charges

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

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	7618.44	7618.48	3800.93	3802.86	3810.31
Interest on Loan	348.08	332.95	317.81	302.68	287.54
Return on Equity	12988.14	9552.65	8581.85	7990.23	7430.22
Interest on Working Capital	3234.91	3239.79	3201.27	3171.65	3215.75
O&M Expenses	10246.80	11547.11	12762.58	12509.97	13429.94
Total annual fixed charges approved	**34436.38**	**32290.97**	**28664.44**	**27777.39**	**28173.77**
Compensation Allowance	84.00	84.00	84.00	84.00	84.00
Total	**34520.38**	**32374.97**	**28748.44**	**27861.39**	**28257.77**

110. The difference between the annual fixed charges already recovered by the Petitioner in terms of the Commission's order dated 4.10.2016 in Petition No. 254/GT/ 2014 and the annual fixed charges determined by this order, as above, shall be adjusted in terms of the provisions of Regulation 8 of the 2014 Tariff Regulations.

111. This order disposes of Petition No. 365/GT/2020.

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