

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 256/GT/2020

Coram:

**Shri Jishnu Baru, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member**

Date of Order: 2nd December, 2024

In the matter of:

Petition for revision of tariff of Talcher Thermal Power Station (460 MW) for the period 2014-19, after the truing up exercise.

And

In the matter of:

NTPC Ltd.
NTPC Bhawan,
Core-7, Institutional Area, Lodhi Road,
New Delhi-110003

.... **Petitioner**

Vs

GRIDCO Limited
24, Janpath, Bhubaneswar – 751007

.....**Respondent**

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Kartikeyan Murugan, Advocate, NTPC
Ms. Sanjeevani Mishra, Advocate, NTPC
Shri Saurav Lalhal, NTPC
Shri Vijendra Singh, NTPC
Shri R.K. Mehta, Advocate, GRIDCO
Ms. Himanshi Andley, Advocate, GRIDCO

ORDER

This petition has been filed by the Petitioner, NTPC Limited, for truing-up of the tariff of Talcher Thermal Power Station (460 MW) (in short, 'the generating station') for the period 2014-19, in accordance with Regulation 8(1) of the Central Electricity



Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short 'the 2014 Tariff Regulations'). The generating station with a total capacity of 460 MW, comprising four units of 60 MW each and two units of 110 MW each. The dates of commercial operation (COD) of the units of the generating station are as under:

Unit I	17.12.1967
Unit II	28.3.1968
Unit-III	11.7.1968
Unit-IV	11.4.1969
Unit-V	24.3.1982
Unit-VI	24.3.1983

2. The Commission, vide its order dated 26.9.2016 in Petition No. 334/GT/2014, determined the capital cost and the annual fixed charges of the generating station for the period 2014-19 as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	100389.87	102498.07	105659.37	108610.87	109620.87
Add: Addition during the year/ period	2108.20	3161.30	2951.50	1010.00	0.00
Closing capital cost	102498.07	105659.37	108610.87	109620.87	109620.87

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4496.79	4892.00	5442.15	5887.82	6039.32
Interest on Loan	264.71	86.34	0.00	0.00	0.00
Return on Equity	8694.45	8892.38	9073.06	9190.15	9220.01
Interest on Working Capital	2826.95	2917.37	3011.42	3112.14	3209.52
O&M Expenses	20514.37	21760.97	23090.37	24502.57	26002.17
Total	36797.27	38549.05	40617.00	42692.69	44471.01

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. In terms of the above regulations, the Petitioner has filed the present Petition for truing-up of the tariff of the generating station for the period 2014-19, based on the actual additional capital expenditure incurred and has claimed the capital cost and annual fixed charges, as under:

Capital cost

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital cost	100389.87	105729.45	108587.31	110611.61	111352.11
Add: Addition	5176.90	3142.10	2007.60	767.77	375.76
Less: Decapitalization	25.06	405.03	167.52	272.82	274.71
Add: Discharges	187.74	120.79	184.22	245.56	45.60
Closing Capital Cost	105729.45	108587.31	110611.61	111352.11	111498.76
Average Capital cost	103059.66	107158.38	109599.46	110981.86	111425.44

Annual Fixed Charges

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4704.52	5320.52	5816.85	8918.22	13325.17
Interest on Loan	327.45	194.54	49.85	0.00	0.00
Return on Equity	8789.59	9074.46	9218.77	9300.49	9351.30
Interest on Working Capital	3003.83	3102.97	3289.43	3497.65	3723.74
O&M Expenses inclusive of water charges and capital spares	21006.30	22245.52	23264.82	24814.10	26384.44
Compensation allowance	0.00	0.00	0.00	0.00	0.00
Special allowance	0.00	0.00	0.00	0.00	0.00
Total (A)	37831.68	39938.01	41639.73	46530.47	52784.65
Additional O&M Expenses					
Impact of Pay Revision	0	35.95	1840.83	2311.43	2649.18
Impact of GST	0.00	0.00	0.00	178.29	257.47
Ash Transportation Expenses	0.00	0.00	28.11	19.86	19.36
Total (Additional O&M expenses) (B)	0.00	35.95	1868.94	2509.58	2926.01
Total (A+B)	37831.68	39973.96	43508.67	49040.05	55710.66

5. The Respondent GRIDCO has filed its replies on 30.6.2021 and 8.9.2021, and the Petitioner has filed a rejoinder to the said replies vide affidavits dated 29.9.2021 and 12.11.2021, respectively. The Petitioner has submitted certain additional information vide affidavits dated 30.6.2021, 16.3.2022, 5.6.2022 and 15.6.2022. The Petition was heard on 6.12.2022, and the Commission, after hearing the parties, reserved its order. However, as the order could not be issued prior to the demitting of



office by Member Shri I. S. Jha, the petition was listed on 6.2.2024, and the Commission, after seeking certain additional information, reserved its order in the matter. The Petitioner filed the additional information on 31.5.2024, and the Respondent GRIDCO filed its reply to the same vide affidavit 4.6.2024. Rejoinder has been filed by Petitioner to the same reply, vide affidavit dated 10.6.2024. Since the order could not be issued as one Member who formed part of the Coram, demitted office, the matter was listed and heard on 27.6.2024. The Petitioner vide affidavit dated 12.7.2024 has filed the additional submissions, after serving a copy on the Respondent. Thereafter, the matter was listed on 8.8.2024, and the Commission permitted the parties to complete their pleadings in the matter. Reply to the additional information has been filed by the Respondent on 16.8.2024 and the rejoinder to the same has been filed by the Petitioner on 23.8.2024. Thereafter, the matter was heard on 29.8.2024, and based on the request of the parties, the Commission permitted the parties to file their short note of submissions and, accordingly, reserved its order in the petition. Based on the submissions of the parties and the documents available on record, we proceed with the truing-up of the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

R&M Phase IV

6. Before we examine the actual additional capital expenditure claimed by the Petitioner, in this petition, we discuss the submissions of parties regarding the discontinuation of the R&M Phase-IV works by the Petitioner. The issue of discontinuance of the R&M scheme by the Petitioner came up for consideration in Petition No. 334/GT/2014, and the Commission vide order dated 26.9.2016 had directed as under:



“15.Hence, the Petitioner is directed to submit additional information as to:

(a) Whether due-diligence and approval of Board regarding the viability of the R&M scheme and life extension thereof was undertaken before in-principal approval was granted by the Commission. If yes, the reasons for not continuing with the R&M Phase-IV scheme beyond 2014 may be elaborated;

(b) Details of the agenda note indicating justification as regards deciding not to continue with the R&M Phase-IV Scheme and approval of the same by the Board of the Petitioner`s Company;

(c) Expenditure, if any, capitalized for the R&M scheme along with the details of the work already undertaken and for the balance work remaining.”

7. In this regard, the Petitioner, vide affidavit dated 25.10.2019, has submitted the following:

(a) The Phase-wise R&M plan for the generating station was submitted in Petition No 212/2010 and submitted that the R&M was aimed at accomplishing the revival of generation, enhancing availability, improving efficiency & performance parameters, achieving sustained performance & high reliability of units for the entire enhanced station-life up to 1.4.2021 and for meeting the environmental emission norms in a phased manner.

(b) The R&M Phase-IV included the leftover schemes of Electrical, TG & Offsite, which were not carried out in the earlier Phases of R&M, i.e. Phases I, II & III. The individual schemes were carried out based on the availability of units, and therefore, the individual schemes, which did not require the approval of the Board of the Petitioner Company, were approved before execution since the expenditure to be incurred on the individual schemes, was lesser than those required for the Board approval. Petitioner filed Petition No. 212/2010 seeking the in-principle approval for the Phase-IV R&M schemes and claimed Rs. 139.71 crore towards R&M Phase-IV schemes for Stage-I and Stage-II of the generating station, which were to be carried out during the periods 2009-14 and 2014-19.

(c) The Commission, in its order dated 7. 6.2013 in Petition No.212/2010, granted in-principle approval of Rs. 64.97 crores in respect of Stage-II for carrying out R&M schemes beyond 2014, with a life extension of 15 years, whereas the Stage-I schemes were disallowed with a direction to phase out these units. In respect of the schemes for the period 2009-14, it was directed that the same would be considered along with the main tariff petition for the period 2009-14. However, for the period 2009-14, the Stage-II works of R&M Ph-IV were allowed to the Petitioner after a prudence check, while the Stage-I works were disallowed.



- (d) The schemes projected in R&M Phase-IV during the period 2014-19 were meant for sustaining the useful life up to the year 2021 only. After reviewing the list of works required to extend the life of the generating station by another 15 years, it emerged that Rs 64.97 crore would be insufficient, and significant capital expenditure would be required to sustain the extended life of 15 years for Stage-II. This, according to the Petitioner, would have involved a substantial additional investment to the tune of approx. Rs 524 crore as per the Special allowance norms (considering 220 MW and 15 years of R&M) notified by the Commission, as certain vital equipment's such as Turbine Generators and Steam Generators were nearing the end of their already extended life in 2021.
- (e) The additional capitalisation of about Rs 500 crore will result in an increase in the fixed charges by almost double. Incurring such a large additional expenditure was felt not techno-economically viable, considering the age of units, their performance, etc. Thus, after carrying out a detailed study and a Cost-Benefit analysis, the Petitioner concluded that it would not be viable to continue with the R&M Phase-IV schemes beyond the year 2014. Hence, this was not taken to the Board. The Petitioner has not claimed any additional expenditure towards the R&M Ph-IV schemes beyond the year 2014, but only the left-over liability and some works of R&M, which were already executed under Phase-III, have been claimed during the period 2014-19.

Submissions of the Respondent GRIDCO

8. In response to the above, the Respondent GRIDCO, vide affidavit dated 30.6.2021, has submitted the following:

(a) In an order dated 7. 6.2013 in Petition No. 212/2010, the Petitioner was granted in-principle approval for Phase-IV R&M Schemes in respect of Stage-II units of the generating station, with the extension of the life of Stage-II beyond the year 2021 by 15 years, after consideration of all the relevant aspects including the following:

(b) Availability / PLF of the generating station is about 91% to 94%;

(c) Under such improved actual operating performance, in the absence of the R&M Phase-IV works, the generating station has not suffered any serious breakdown or generation loss on account of the non-reliability or obsolescence of some of the existing components.

(d) By undertaking the R&M Phase-IV, Petitioner intended to provide for any exigencies/failure in the future.

(e) The extended life of the units is to expire during the year 2021, and the generating station has attained a saturated level of its performance due to extensive additional capitalization of Rs.543.32 crore allowed by the Commission



by way of R&M, thereby keeping very little room for further efficiency improvement.

(f) In an order dated 15. 5.2014 in Petition No. 304/GT/2009 (determination of tariff of the generating station for the period 2009-14), the R&M expenditure under Phase-IV Schemes actually incurred and projected to be incurred by the Petitioner, during the period 2009-14 for Stage-II units amounting to Rs.11.45 crore was allowed, after considering the corresponding de-capitalisation. In an order dated 31. 8.2016 in Petition No.273/GT/2014 (truing up of the tariff for the period 2009-14), the actual additional capital expenditure amounting to Rs.13.32 crore towards R&M Phase-IV was allowed to the Petitioner. However, the Petitioner, in its petition filed for determination of tariff for the period 2014-19, decided to discontinue the R&M Phase IV Schemes.

(g) Vide order dated 7. 6.2013, the Commission directed the Petitioner to carry out Phase-IV R&M of the generating station Stage-II with the extension of the life of the same by 15 years from the date of completion of such R&M. Though the Petitioner accepted the said direction of the Commission by revising the projected additional capital expenditure for 2013-14 for R&M Phase-IV Schemes for the period 2009-14, with an expenditure of Rs.13.32 crore incurred against the said scheme, the Petitioner reversed its stand on the same, by not carrying out the balance Phase-IV R&M works;

(h) The Commission, vide its order dated 26.9.2016, held that the decision of the Petitioner not to carry out the R&M Phase-IV schemes (Stage-II) beyond 2014 was not justifiable in the absence of any proper justification. In the event of non-compliance with the directions of the Commission, the Petitioner should have approached the Commission proactively, informing the status of the implementation of the directions;

(i) The Commission, inter-alia, directed the Petitioner to explain the reasons for not continuing with the R&M Phase-IV schemes beyond 2014 in the truing-up proceedings.

(j) The Petitioner has stopped generation from the generating station with effect from 31.3.2021 although (i) it had proposed and agreed to carry out the Phase-IV R&M of the generating station Stage-II (ii) it has incurred expenditure of Rs.13.32 crores against Phase-IV R&M of the generating station Stage-II (iii) it had not challenged the direction of the Commission in the order dated 7. 6.2013 to carry out the Phase-IV R&M Schemes with life extension of

(k) 15 years from the date of completion of such R&M (iv) it has not taken permission of the Commission to phase out the generating station Stage II and (v) it has also not taken consent of the Respondent, which is the sole beneficiary of the said generating station, for the closure of the generating station.



(l) The Petitioner has communicated to the Respondent the reasons for the shutdown of the generating station as follows:

- (i) Re-operationalization of 2 x 110 MW units may not be feasible due to performance and sharing of common facilities with 60 MW units, which have been in operation for 54 years;
- (ii) Facilities like firefighting, make-up water, and Coal conveying are common for both Stages, and operationalization of the Stage-II units (2 x 110 MW) in standalone mode may not be feasible technically due to their poor reliability and safety. The electrical system is also very old, obsolete, and vulnerable to failures, leading to reliability and safety issues;
- (iii) The heat rate of the units of the generating station is much higher than the normative heat rate, which leads to a negative marginal contribution. The heat rate of the units is above 2600 kCal/kWh, and these are also on the Ministry of Power list of units to be retired. Also, there is no provision of Special Allowance in the case of the generating station as per Tariff Regulations notified by the Commission;
- (iv) Comprehensive assessment and extensive work are required to achieve the reliable operation of these units, which may take considerable time and investment.

(m) On a query by the Government of Odisha vide its letter dated 22.3.2021, the Minister of State (Independent Charge) for Power and New & Renewable Energy and the Minister of State in the Ministry of Skill Development and Entrepreneurship, GOI, vide letter dated 15.4.2021, informed the Respondent, the reasons for the closure of the generating station as under:

“we have also noted your concerns regarding the closure of old plant of TTPS. The existing plants of TTPS-NTPC are more than 54 years old. The environmental approval for operating the plant was valid only upto 31st March 2021. There are safety concerns as well. Running the plant without a complete overhaul will not be advisable

(n) The discontinuation of the generation from the generating station with effect from 31.3.2021 without the permission of the Commission is in violation of the order dated 7. 6.2013. Further, the non-submission of any reasons for discontinuing the R&M Phase-IV Scheme in the truing up a petition for the period 2014-19, as directed vide order dated 26.9.2016 in Petition No.334/ GT/ 2014 amounts to a gross and wilful violation as well as contempt of the orders of the Commission.

(o) The action of the Petitioner in unilaterally stopping the generation of Stage-II units is wholly unjustified, patently illegal, and arbitrary in view of the following:

- (i) The generating station was operating at a high level of PLF to the extent of 91-94%;
- (ii) Vide order dated 7.6.2013, such a high level of performance of the generating station was acknowledged, and accordingly, the Petitioner was directed to carry out Phase-IV R&M, extending the life of the generating station Stage-II by 15 years;



- (i) The Petitioner did not challenge the above direction with regard to the implementation of Phase-IV R&M of Stage II units of the generating station and extending the life of the generating station Stage-II by 15 years. In fact, the Petitioner accepted the above direction by incurring Rs.13.32 crores towards Phase-IV R&M schemes during the period 2009-14;
- (ii) The Petitioner has been directed to justify the reasons for the discontinuance of Phase-IV R&M of Stage-II units of the generating station at the time of truing up of tariff for the period 2014-19.
- (p) After the huge investment of Rs. 673.24 crores (having already been additionally capitalized towards R&M expenditure up to 31.3.2014, i.e., Rs. 1.63 crores per MW of additional capitalization), the generating station has been converted into an almost new Plant, as evidenced by its performance which has surpassed many recently established Green Field Projects. The people of the State of Odisha are, therefore, entitled to the benefit of such a huge investment by way of the extension of the life of Stage-II units by 15 years after completion of the R&M Phase-IV schemes.
- (q) CEA, in its reports/recommendations, has categorically recorded that the performance of the generating station is one of the best amongst the best five old thermal units, besides identifying the generating station as one of the units under the R&M/Operational category and not in the category of the units, which are to be retired.
- (r) Even though the R&M of the generating station started in the year 2000, the same was done in three Phases, and the third Phase was concluded as recently as in the year 2014. Moreover, further additional capital expenditure of Rs. 92.31 crore was allowed for the period 2014-19 (total R&M cost being Rs. 740.21 crore). As such, the stand of the Petitioner that the Plant has outlived its useful life by 2021 is wholly unjustified.
- (s) In response to the queries raised in the order dated 26.9.2016 in Petition No.334/GT/2014, with regard to the implementation of R&M Phase-IV, the Petitioner is trying to stage a volte-face, in spite of the fact that it was granted the in-principle approval for the said works, after considering its proposal for continuance of the said scheme beyond the period 2009-14. The Petitioner is bound to continue with the R&M Phase-IV scheme in respect of the Stage II units of the generating station, pursuant to the in-principle approval of the said works and the expenditure incurred, in terms of the order dated 7.6.2013 in Petition No 212 of 2010.
- (t) The purported explanation given by the Petitioner, in the present petition, for not continuing with the R&M Phase IV of Stage II units of the generating station is wholly unjustified, baseless, and is not supported by any documentary evidence. The present petition is, therefore, not maintainable.



(u) The Respondent has filed Appeal No.87/2017 and Appeal No. 47/2017, respectively, against the Commission's orders dated 26.9.2016 (in Petition No.334/GT/2014) and 30.8.2016 (in Petition No.273/GT/2014) before the APTEL, which are pending for hearing. The outcome of both the above appeals will be applicable to this petition.

Rejoinder submissions of the Petitioner

9. The Petitioner, in its rejoinder submissions dated 12.11.2021, has mainly clarified as under:

- (a) The submission of the Respondent that it was not aware of the discontinuation of the Phase-IV R&M scheme is misleading. Initially, GRIDCO had argued against the implementation of the Phase IV R&M scheme and has also filed an appeal against the order dated 15.5.2014 before the APTEL (Appeal No. 180/2014), contending that the Phase IV R&M schemes ought not to be allowed. Thereafter, when GRIDCO became aware that the Petitioner was not carrying on the Phase IV R&M schemes, it challenged the orders dated 31.8.2016 and 26.9.2016 before the APTEL in Appeal No. 47/2017 and Appeal No.87/2017, which are still pending.
- (b) The Respondent to express shock at the Petitioner not carrying out the Phase IV R&M scheme is misconceived and is without merit. The Petitioner, as early as in 2014, had informed the Respondent that it was not going ahead with the Phase IV R&M schemes. Since R&M was only partly undertaken in respect of Phase IV, there could be no question of extending the life of the generating station beyond 31.3.2021. The Petitioner has informed that at the 496th meeting of the Board of Directors of the Petitioner's company held on 27.3.2021, it was decided that the generating station would be permanently discontinued with effect from 31.3.2021.
- (c) The Respondent has relied upon the letters dated 31.3.2021, 6.4.2021, 7.4.2021, and 15.4.2021, wherein the Petitioner has clarified that it is not able to extend the supply of power from this generating station. In case of any disputes, the Respondent should have sought the adjudication of the same by filing an appropriate petition under Section 79 (1)(f) of the Electricity Act, 2003 instead of raising it as a preliminary issue in the present petition.
- (d) It is a well-settled principle that the supply of electricity under a PPA/PSA has certain statutory and contractual elements. It is not that the Petitioner is in breach of any provision of the PPA entered into with the Respondent. It was well understood that the life of the generating station, based on the expenditure as allowed through various orders, could only be till 31.3.2021.



- (e) The Respondent had earlier contended that the Phase IV R&M scheme was not necessary and ought not to have been permitted to the Petitioner. When the Petitioner stated that the approved Phase IV R&M schemes were not sufficient to extend the life of the generating station beyond 31.3.2021, the Respondent had a change of heart and challenged the orders dated 31.8.2016 and 26.9.2016, before APTEL, which are pending consideration.
- (f) In the pending appeals (Appeal Nos. 47/2017 & 87/2017), it has submitted a detailed justification for not carrying on the Phase IV R&M scheme. The Petitioner has discontinued the R&M Phase IV schemes on the grounds of unviability. The schemes projected in R&M Phase-IV (during 2014-19) were meant to sustain the useful life of Stage II units up to 2021, and after carrying out a study, it emerged that significant capital expenditure shall be required to extend the useful life of Stage-II units by another 15 years.
- (g) The R&M of Phase-IV would have involved substantial investment as certain vital equipments, such as the Turbine and Steam Generators, were nearing their extended life up to 2021. Further, as per the latest MOEF Guidelines notified on 7.12.2015, the existing stations also need to comply with the additional environmental norms of NOx and Sox, besides the Particulate Matter. These new norms can only be met by installing the additional equipments & systems in the flue gas path, which require additional space and power consumption. This additional capitalisation will escalate the fixed charges. Therefore, it was concluded that incurring such a large expenditure may not be techno-economically viable considering the age of units, their performance, etc. Thus, after carrying out a detailed study and cost-benefit analysis, the Petitioner concluded that it would not have been a viable option to continue with the R&M Phase IV schemes beyond 2014.
- (h) The generating station units are 110 MW and below units of non-reheat type, due to which the design Station Heat Rate (SHR) is considerably higher (poor efficiency). The units in this category are also of older vintage, which leads to a further deterioration in the SHR. Therefore, the heat rate of 110 MW units and 60 MW is considerably higher than the heat rate of 200 MW and 500 MW units due to technological design differences and limitations of 60 MW and 110 MW units vis-a-vis the 200 MW/500 MW units. Even if the existing old units of this generating station were replaced with new ones of a similar design, the achievable performance would never be comparable to 200 MW and 500 MW units. Further, the Renovation & Modernization of the units can, at best, revive the lost efficiency of the units with respect to their original design values to a limited extent only, but cannot improve their primitive design, which is of a lesser efficiency, as compared to the higher capacity units of 200 MW and 500 MW. All these factors together have contributed to the decision of the Petitioner not to continue with the R&M Phase IV schemes beyond 2014.



- (i) The averment of the Respondent that by making an investment of Rs 673.24 crores, the generating station has been converted into an almost new plant is denied. Even by spending the above amounts, the generating station could successfully run only till 31.3.2021. Thus, the contention of the Respondent that the people of the State of Odisha should get the benefit of the generating station even beyond 31.3.2021 is not correct. The entire Renovation & Modernisation carried on by the Petitioner in three phases, which concluded in the year 2014, was only to keep the generating station operating till 31.3.2021 and not beyond.
- (j) Reliance placed by the Respondent on the recommendations/reports of the CEA is vague, and it is not clear in what context the said report has been relied upon. The R&M is a cost-effective option instead of setting up a new generating capacity. However, it is not that R&M will result in a permanent extension of life of the generating station like this generating station which is more than 40 years old.

Analysis and Decision

10. We have examined the rival submissions. It is noticed from record that the Commission, vide its order dated 26.9.2016 in Petition No 334/GT/2016, had directed the Petitioner to submit certain information pertaining to the R&M Phase IV at the time of truing up of tariff. However, in the present Petition, the Petitioner, except for the rejoinder submissions, has not furnished any documents nor has provided any cost-benefit analysis justifying the discontinuation of the scheme. We, however, note that the Petitioner, in the pending appeals (Appeal Nos. 47/2017 & 87/2017), has submitted the detailed justification for not carrying on the Phase IV R&M scheme. Considering the fact that these issues are pending consideration of the APTEL in the said appeals, we find no reason to consider the same in this order. This is, however, subject to the final decision of the APTEL in the said appeals. The submissions of the Respondent stand disposed of accordingly.



Capital Cost

11. Regulation 9(1) 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 the determination of tariff for existing and new projects. Regulation 9(3) of the 2014 Tariff Regulations provides as under:

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

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014.

(b) additional capitalisation and de-capitalisation for the respective year of tariff as determined in accordance with Regulations 14.

© expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15;”

12. The Commission vide its order dated 26.9.2016 in Petition No. 334/GT/2014 had approved the annual fixed charges of the generating station for the period 2014-19, considering the opening capital cost of Rs.100389.87 lakh (on a cash basis). Accordingly, in terms of Regulation 9(3) of the 2014 Tariff Regulations, the capital cost of Rs.100389.87 lakh has been considered as the opening capital cost as on 1.4.2014.

Exclusions

13. We first examine the exclusions claimed by the Petitioner for the period 2014-19 tariff period. The summary of exclusions from the books of accounts, as claimed (on cash basis) by the Petitioner, is as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Loan FERV	76.36	74.12	(-)97.17	182.73	(-)22.86
Inter-Unit Transfer	(-)468.84	(-)2.06	(-)13.44	(-)118.73	(-)48.66
De-capitalization of MBOA: (not Part of Capital Cost)	(-) 5.62	(-) 38.71	(-)31.77	(-)27.91	(-)45.15
MBOA Cost adjustment (+)	-	6.70	-	-	-
MBOA Cost adjustment (-)	-	(-)4.27	-	-	-
Capitalization of spares	805.00	1360.72	897.57	642.49	342.21
Decapitalization of spares (not part of capital cost)	(-) 469.77	(-)155.40	(-)51.35	(-)152.47	(-)15.86



Provisioning for procurement of Ash brick machine	(-) 4.54	-	-	-	--
Stage 1 capitalization	-	86.39	-	-	-
5 km scheme	-	(-)1531.19	-	-	-
Plant and Machinery (TG blade)	-	-	(-)388.85	-	-
Staff room construction	-	-	-	23.42	-
Diversion of storm water	-	-	-	192.48	-
Construction of ODIA school	-	-	-	-	306.89
Electrification of ODIA school	-	-	-	-	9.46
Total Exclusions claimed	(-)67.41	(-)203.70	314.99	742.01	526.03

Loan FERV

14. The Petitioner has claimed the exclusion of loan FERV amounting to Rs.76.36 lakh in 2014-15, Rs.74.12 lakh in 2015-16, (-) Rs 97.17 lakh in 2016-17, Rs.182.73 lakh in 2017-18 and (-) Rs.22.86 lakh in 2018-19. In justification, the Petitioner has submitted that since it is entitled to directly claim FERV on the foreign currency loans from the beneficiaries, the same has been kept under exclusions. As the Petitioner is entitled to claim loan FERV directly from the beneficiaries, in terms of the 2014 Tariff Regulations, the claim under this head is allowed.

Inter-Unit Transfer

15. The Petitioner has claimed the exclusion of (-) Rs.468.84 lakh in 2014-15, (-) Rs.2.06 lakh in 2015-16, (-) Rs.13.44 lakh in 2016-17, (-) Rs.118.73 lakh in 2017-18 and (-) Rs.48.66 lakh in 2018-19, on account of the Inter-unit transfer of assets from the generating station. In justification, the Petitioner has submitted that since the Commission is not considering the temporary inter-unit transfer of assets for the purpose of tariff, the same has been kept under exclusions. The Commission, in its various orders, while dealing with the application for additional capitalisation in respect of other generating stations of the Petitioner, had decided that both the positive and negative entries arising out of inter-unit transfers of a temporary nature shall be



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

De-capitalization of MBOA (not part of the capital cost)

16. The Petitioner has claimed the exclusion of decapitalization of MBOAs amounting to (-) Rs.5.62 lakh in 2014-15, (-) Rs.38.71 lakh in 2015-16, (-) Rs.31.77 lakh in 2016-17, (-) Rs.27.91 lakh in 2017-18 and (-) Rs.45.15 lakh in 2018-19. Additionally, Petitioner has claimed the cost adjustment of Rs.6.70 lakh and (-) Rs.4.27 lakh in 2015-16 towards the Procurement of the MBOAs. In justification, the Petitioner has pointed out that the capitalisation of MBOAs is not allowed after the cut-off date, in terms of the 2014 Tariff Regulations, and hence, their decapitalization and cost adjustment has also been kept under exclusion. This submission has been considered. Considering the fact that the capitalization of MBOAs is not allowed for the purpose of tariff after the cut-off date of the station, the claim of the Petitioner to exclude the decapitalization and cost adjustment towards MBOAs, which do not form part of the admitted capital cost is allowed.

Capitalization of Capital spares

17. The Petitioner has claimed the exclusion of the capitalisation of capital spares amounting to Rs.805.00 lakh in 2014-15, Rs.1360.72 lakh in 2015-16, Rs. 897.57 lakh in 2016-17, Rs.642.49 lakh in 2017-18 and Rs.342.21 lakh in 2018-19. In justification, the Petitioner has submitted that as the capitalisation of expenditure against capital spares is not admissible beyond the cut-off date, in terms of the 2014 Tariff Regulations, the capitalisation of the same has been claimed as exclusions. The submission has been considered. Since the capitalization of capital spares is not allowed for the purpose of tariff after the cut-off date, in terms of the provisions of the 2014 Tariff Regulations, the claim of the Petitioner is allowed.



De-capitalization of Capital spares (Not part of Capital Cost)

18. The Petitioner has claimed the exclusion of de-capitalisation of capital spares amounting to (-) Rs.469.77 lakh in 2014-15, (-) Rs.155.40 lakh in 2015-16, (-) Rs.51.35 lakh in 2016-17, (-) Rs.152.47 lakh in 2017-18 and (-) Rs.15.86 lakh in 2018-19. In justification, the Petitioner has submitted that as the capitalisation of expenditure against capital spares is not allowed for the purpose of tariff after the cut-off date, the de-capitalisation of the capital spares, which are not in the capital base, has been claimed as exclusions. Considering the fact that the decapitalized spares are the ones that were procured after the cut-off date and were not allowed to form part of the capital cost for the purpose of tariff, the claim of the Petitioner to keep the decapitalization of capital spares under exclusion is in order and allowed.

Provisioning of Ash brick procurement machine

19. The Petitioner has claimed the exclusion of (-) Rs.4.54 lakh in 2014-15 against provisioning in the books of accounts for the Ash brick-making machine. As the claim is against the provisioning, which does not affect the capital cost for the purpose of tariff, the exclusion of the same is allowed.

Supply of power within a 5 km radius scheme

20. The Petitioner has claimed the exclusion of (-) Rs.1531.19 lakh in 2015-16 against the transfer of assets pertaining to the supply of power within the 5 km radius scheme to the local discom, as per the policy of the MOP, GOI. It is noticed that in the Commission's order dated 31.8.2016 in Petition No. 273/GT/2014, the Petitioner was directed to claim the expenditure towards the 5 km scheme directly from the discoms, and the expenditure incurred was not allowed to form part of the capital cost for the



purpose of tariff. Accordingly, the claim of the Petitioner to exclude the negative entry arising due to the transfer of assets to local discom, is in order and allowed.

Plant & Machinery (TG blade failure)

21. The Petitioner has claimed the exclusion of (-) Rs.388.85 lakh in 2016-17 against the decapitalization of Turbine blades. The Petitioner has submitted that since it is not eligible for the Special allowance and the Compensation allowance, as per the Tariff Regulations, their de-capitalisation should be allowed under exclusions. We have examined the matter. It is observed that the de-capitalized amount corresponding to the failed turbine blades forms part of the capital cost and, as such, requires to be decapitalized for the purpose of tariff. Also, in terms of the provisions of the 2014 Tariff Regulations, the asset is not rendering any useful service in the operation of the plant. Accordingly, the claim of the Petitioner to keep the negative entry under exclusion is not allowed.

Other capitalization

22. The Petitioner has claimed the exclusion of capitalisation amounting to Rs.86.39 lakh in 2015-16 towards Stage-1 capitalization disallowed vide order dated 15. 5.2014, Rs.23.42 lakh towards the Construction of staff room and other facilities in DAV HS school and Rs 192.48 lakh towards the diversion of stormwater drains for Talcher station, Stage III in 2017-18, Rs.306.89 lakh towards the Construction of ODIA medium schools (Stage III expansion) and Rs.9.46 lakh towards the Electrification of the ODIA medium school (Stage III expansion) in 2018-19. Since all the aforesaid expenditures do not pertain to this generating station, the capitalization of the amounts is allowed under exclusions.



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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total Exclusions claimed	(-) 67.41	(-)203.70	314.99	742.01	526.03
Total Exclusions allowed	(-) 67.41	(-)203.70	703.84	742.01	526.03
Total Exclusions Not allowed	-	-	(-)388.85	-	-

Additional Capital Expenditure

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

“14. Additional Capitalisation and De-capitalisation:

(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 recognised 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 recognised 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 estimated cost of package, reasons for such withholding of payment and release of such payments etc.;
- (vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments.
- (vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal /lignite-based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;
- (viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;
- (ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and
- (x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

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

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

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



25. The Petitioner has claimed the total actual additional capital expenditure, on a cash basis, for the period 2014-19 as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	Additional capital expenditure claimed on cash basis				
			2014-15	2015-16	2016-17	2017-18	2018-19
	Claimed/Allowed Works						
1	Switchyard R&M balance payment.	14(3)(vi)	-	1.30	-	-	-
2.	Refurbishment of IPT rotor, Stage-110 MW	14(3)(vi)	-	-	-	-	0.00
3	Replacement of all Extraction NRVs, CRH NRVs & Gland steam change over valves with Servo motors (stage-II)	Regulation 14(3) with Regulation 54 (power to relax)	396.09	-	-	-	-
4	Raising /construction of contingency ash dyke at lagoon 1.	14 (3) (iv)	165.40	-	55.34	-	-
5	Construction of stormwater drain at South Balanda mines from QUARRY 2 to Railway culvert.	14(3)(vi)	0.00	-	-	-	-
6	Mine Void filling through Ash Works	14 (3) (iv) &(ii)	1547.82	691.30	479.55	38.47	
7	AWRS works	14(3)(ii)	9.71	129.65	0.47	38.48	
8	ESP Augmentation &augmentation (2 x 110 MW)	14(3)(ii)	298.67	1619.86	1326.36	287.34	-
9	AFGC (Ammonia flue gas conditioning system) for Stage-I	14(3)(ii)	194.53	24.69	-	-	-
10	Procurement & installation of 4th AAQMS Station	14(3)(ii)	55.48	0.44	-	9.22	-
11	Real Time Data Acquisition System as per SPCB Requirement	14(3)(ii)	22.36	5.47	(-) 0.17	-	-
12	Augmentation of Firefighting system	14(3)(ii) &(iii)	-	42.42	-	-	126.95
13	Retrofitting of boiler lifts	14(3) (iii)		52.65		62.10	
14	5 km radius power supply scheme	14(3)(vi)		55.99			
	Sub-total		2690.07	2623.77	1861.55	435.61	126.95
	New Claims						
1	Continuous Emission Monitoring System (CEMS) & Emission Quality Monitoring Station (EQMS)	14(3)(ii)	-	253.55	-	--	-



2	Spare Rotor assembly for 60 MW steam turbine for Stage-I.	Regulation 14(3) with Regulation 54 (power to relax)	2339.89	-	-	-	-
3	Replacement of CFL/HPSV with energy efficient LED lighting.	14(3)(ii)	-	-	11.75	201.22	-
4	Design, Supply, Erection and Commissioning of Grid connected Roof Top Solar PV Panels at Talcher Thermal.	Regulation 14(3) with Regulation 54 (power to relax)	-	-	-	-	70.54
5	CW chemical treatment stage-I		44.81	41.00	-	-	-
6	Construction of transformer oil collection pit.		43.30	-	-	-	-
7	Stage II PA fan lube oil system U-6.		7.23	-	-	-	-
8	Bio-methanation plant for generation of bio-gas fuel at plant canteen.		-	13.91	-	-	-
9	Anti-corrosion /energy efficient improvement coating of CW pumps in offsite area.		-	-	-	11.57	88.92
10	RCC foundation in railway track for stand by motion - weigh bridge and toe wall.		-	-	-	-	0.80
11	Capitalisation of MBOA items		51.61	209.87	134.30	119.38	88.56
	Sub-total		2486.83	518.34	146.05	332.16	248.81
	Decapitalization						
1	Decapitalisation of ESP R&M	14(4)		(-)79.48		(-)41.01	-
2	Decapitalisation of Residential quarters.		-	-	-	(-) 149.88	-
3	Decapitalisation of Vehicles		-	-	-	(-) 2.76	-
4	Decapitalisation of Spares: Part of the capital cost		(-)20.37	(-) 325.55	(-) 121.32	(-)78.93	(-)232.03
5	Decapitalisation of the MBOA part of capital cost		(-)4.69		(-)46.20	(-)0.24	(-)42.68
	Total Decapitalization		(-)25.06	(-) 405.03	(-) 167.52	(-) 272.82	(-) 274.71
	Discharge of admitted/claimed Liabilities	14(4)	187.74	120.79	184.22	245.56	45.60
	Total Additional capitalisation claimed		5339.58	2857.86	2024.30	740.50	146.64



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

Switchyard R&M balance payment

27. The Petitioner has claimed the actual additional capital expenditure of Rs.1.30 lakh in 2015-16 under Regulation 14(3)(vi) of the 2014 Tariff Regulations towards the final payment for the Switchyard R&M work already capitalised and allowed in 2011-12 vide Commission's order dated 15.5.2014 in Petition No.304/2009. Since the Commission had approved the scheme of Switchyard R&M and allowed the corresponding capitalization for the purpose of tariff vide the said order, the claim by the Petitioner towards the balance final payment amounting to Rs 1.30 lakh for the said work, is allowed under Regulation 14(3)(vi) of the 2014 Tariff Regulations.

Refurbishment of IPT rotor, Stage-110 MW

28. The year-wise break-up of the actual expenditure claimed by the Petitioner is as under:

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

* cash basis, Gross expenditure on an accrual basis is Rs.328.92 lakh

29. Against the gross expenditure of Rs 328.92 lakh in 2018-19 under Regulation 14(3)(vi) of the 2014 Tariff Regulations, the Petitioner has not claimed any amount in 2018-19 on a cash basis. In justification, the Petitioner has submitted that the works are covered under the original approved works of Phase-III R&M, and the same was allowed by the Commission vide its order dated 26.9.2016 in Petition No 334/GT/2014. We notice that in the said order dated 26.9.2016, the Commission had allowed only an expenditure of Rs.197 lakh for the said asset. However, no justification for the increase in the expenditure from Rs.197 lakh to Rs.328.92 lakh has been made available by the Petitioner in this Petition. Considering the fact that the claim 'on cash



basis' is nil in 2018-19 and, as such, has no bearing on the tariff, we direct the Petitioner to claim the said expenditure, as and when discharged, during the period 2019-24 along with proper justification for the said increase in the expenditure cost and the same will be considered in accordance with law.

Replacement of all extraction NRVs, CRH NRVs & Gland steam change over valves with Servo motors (stage-II)

30. The Petitioner has claimed the actual additional capital expenditure of Rs. 396.09 lakh in 2014-15 under Regulation 14(3), read with Regulation 54 (power to relax) of the 2014 Tariff Regulations for replacement of the assets, against the projected expenditure of Rs 366.00 lakh allowed vide order dated 26.9.2016 in Petition No 334/GT/2014. The Petitioner has submitted that the minor increase in the cost is on account of the increase in the material cost in comparison to the estimated material cost at the time of making projections. Considering the fact that the increase in the actual additional expenditure as against the projected expenditure allowed, is considered reasonable and the variation also not being huge, the actual additional capital expenditure claimed is allowed.

Raising /construction of Contingency Ash dyke at Lagoon 1

31. The year-wise break-up of the actual expenditure claimed by the Petitioner under Regulation 14(3)(iv) of the 2014 Tariff Regulations is as under:

					(Rs. in lakh)
2014-15	2015-16	2016-17	2017-18	2018-19	Total
165.40	0.00	55.34	0.00	0.00	220.74*

*cash basis, Gross expenditure on an accrual basis is Rs.250.80 lakh

32. The Petitioner has claimed a total actual additional capital expenditure of Rs 220.74 lakh (i.e Rs. 165.40 lakh in 2014-15 and Rs.55.34 lakh in 2016-17) on a cash basis, under Regulation 14(3)(iv) of the 2014 Tariff Regulations. The corresponding expenditure on an accrual basis is Rs.184.85 lakh and Rs.65.95 lakh against the



expenditure of Rs 250.00 lakh already allowed for the period 2014-19 vide order dated 26.9.2016 in Petition No 334/GT/2014. Considering the fact that the total actual expenditure of Rs.250.80 lakh is not at much variance from the already admitted projected expenditure of Rs.250.00 lakh vide order dated 26.9.2016 in Petition No. 334/GT/2014, the amount claimed on a cash basis by Petitioner is allowed for the purpose of tariff under Regulation 14(3)(iv) of the 2014 Tariff Regulations.

Construction of stormwater drain at South Balanda mines from Quarry 2 to Railway culvert.

33. As against the additional expenditure of Rs 1.39 lakh allowed, the Petitioner has not claimed any additional capital expenditure in 2014-15 on a cash basis. In justification, the Petitioner has submitted the following:

“Provision towards adjustment to capitalisation against Final bill for earlier allowed work by Commission vide order dated 15.05.2014 in Pet No. 304/2009 in 2013- 14. Rs 43.79 lakh was allowed by Commission in 2013-14 vide order dated 31.08.2016 in Pet No 273/GT/2014. Hon'ble Commission may be pleased to allow the same”

34. Considering the fact that a provision has been made against the works allowed earlier, the balance claim against the final payment of Rs 1.39 lakh (accrual basis and 0.00 lakh on a cash basis) is allowed under this head under Regulation 14(3)(vi) of the 2014 Tariff Regulations.

Mine Void filling Works

35. The year-wise break-up of the actual expenditure claimed by the Petitioner under Regulation 14(3)(iv) & (ii) of the 2014 Tariff Regulations is as under:

<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
1547.82	691.30	479.55	38.47	0.00	2757.14*

**cash basis, Gross expenditure on an accrual basis is Rs. 2959.83 lakh*

36. The Petitioner has submitted that it has filed Appeal No. 12/2018 before challenging the order dated 26.9.2016 in the Petition No 334/GT/2014 on the



disallowance of Rs. 28.26 crore towards the Mine void filling works and reserves the right to amend the Petition and/or approach Commission at the appropriate time depending upon the outcome of such appeals filed in respect of this generating station.

37. We have examined the matter. It is observed that the amount claimed by the Petitioner under this head was not allowed in an order dated 26.9.2016 in Petition No. 334/GT/2014 in para 21 as under: -

*“21. We have examined the matter. It is observed from the minutes of meeting of the 52nd meeting of Expert Appraisal Committee (EAC) on Environment Impact Assessment of Thermal power and coal mining projects held on 29.2.2016 and 1.3.2016 that due to environmental constraints, the permission to the generating station for ash disposal in South Balanda mines is only up to March 2017 and the Petitioner has therefore considered the construction of ash pond and corresponding projected capital expenditure after March, 2017. It is also observed that since the ash disposal is not allowed beyond March 2017, the Petitioner has claimed huge capital expenditure towards the Ash mine back filling and related works during the period 2014-17. **It is our considered view that as the ash disposal is not allowed after March 2017, the projected expenditure in this regard just before 2017 is not justifiable as it will serve no purpose and the consumer/beneficiaries cannot be burdened for the same.**”*

38. Subsequently, the Petitioner filed Review Petition No. 62/RP/2026 against the disallowance of the said expenditure pertaining to Mine void filling, and the Commission, vide its order dated 20.7.2017, rejected the claim as observed below:

8. The petitioner has submitted that the Commission has erred in disallowing the claim of `2826.00 lakh for mine void filling works on the ground that the capital expenditure before March 2017 is not justifiable due to restriction in mine void filling work after March 2017. This submission of the petitioner cannot be accepted. It is noticed that the petitioner had claimed total projected additional capital expenditure of `6276.00 lakh for the period 2014-19 towards ash handling system which comprised of `2300.00 lakh towards construction of ash pond- I & II, `2497.00 lakh towards protection barrier at a pilot quarry (South Balanda mines), `279.00 lakh towards laying of fourth ash slurry disposal lines from station to mine, `250.00 lakh towards construction of contingency ash dyke and 50.00 lakh towards laying of fourth approach road from MCL main road under Regulations 14 (3)(iv) and 14 (3)(ii) of the 2014 Tariff Regulations. Though SPCB had directed for the disposal of the solid waste in South Balanda open cast mine, the petitioner vide affidavit dated 19.9.2016 had submitted that there have been issues in mine back filling with regard to MOEF clearance for forest land rediversion, etc and that the EAC on Environment Impact Assessment on Thermal and Coal mining projects under MOEF, GOI in the 52nd meeting had extended the permission to the generating station for ash disposal in South Balanda mines further upto 1 year from March 2016 i.e upto March 2017 (subject to regular monitoring review by continuing study by National Environment Engineering Institute) regarding various effects regarding ash disposal in mines. It is noticed that on account of permission being



granted only upto March 2017, the petitioner had planned the construction of Ash pond- I & II and corresponding projected expenditure after March 2017 and had claimed the same in the petition. Considering the fact that ash disposal in mines was not allowed after March 2017 and as the petitioner had planned the construction of ash pond and contingency ash dyke and claimed additional capital expenditure on this count, the Commission considered it prudent not to allow the expenditure on ash disposal in mines and burden the beneficiaries on this count. Even otherwise, in case permission for ash disposal in mines was not granted beyond March 2017, the petitioner can meet the requirement of ash disposal in the ash pond and contingency ash dyke which has been allowed in order dated 26.9.2016. In this background, the submission of the petitioner that it had already incurred cost and put to use works amounting to `2425.00 lakh during 2014-16 towards these schemes and the remaining amount will be capitalized during 2016-17 was not considered in order dated 26.9.2016. Accordingly, we hold that there is no infirmity in the order dated 26.9.2016 disallowing the expenditure on ash disposal for mine filling amounting to `2826.00 lakh. In our view, no case has been made out by the petitioner for review of order dated 26.9.2016. Therefore, there is no error apparent on the face of the order and review on this ground fails.

39. The Petitioner vide affidavit dated 30.5.2024 has submitted that EAC, MoEF & CC vide MOM dated 16.3.2017 has further extended the permission and clearance for a period of 5 years for disposal of fly ash in *South Balanda Mines*, based on the study of M/s NEERI and BARC. Further, the MOEF&CC committee had directed the Petitioner to undertake the ash disposal by Mine void filling, and therefore, the Petitioner is only left with Mine void filling as the option for ash discharging till the useful life is in compliance with the statutory directions. Accordingly, the Petitioner has prayed for allowing the said claim under a change in law /compliance with the existing law and deferred works relating to the Ash Pond under Regulation 14(3) (ii) and 14(3)(iv) of the 2014 Tariff Regulations.

40. On scrutiny of the actual expenditure claimed by the Petitioner, it is noticed that the expenditure towards Mine void filling mainly comprises three assets;

- a) Barrier at pilot quarry of South Balanda Mines;
- b) Construction of approach road & storm water drain at South Balanda Mines for Ash water decantation system;
- c) Laying of the 4th ash disposal line to mine



41. The Petitioner, vide affidavit dated 30.5.2024, has submitted that it has been undertaking the Ash filling of mines since 2005, as per the MOEF guidelines on Ash utilization and also in terms of the periodic consent to discharge ash by the SPCB Odisha in the mine voids of the South Balanda mines. It has also submitted that the Commission has been allowing the additional capitalization for works related to the Ash filling of mines in the Talcher Project during the various tariff periods up to 31.3.2014 and has referred to certain orders wherein the Commission had allowed the expenditure on assets like ash pipelines from plant to mines, pollution control monitoring equipment, an extension of power supply system from generating station to mine and for the arrangement of power supply for mine back filling with ash slurry (as per MOEF guidelines), erection of ash disposal line from generating station to mine end (as per the directive from Ministry of Environment, TTPS to meet 100% ash utilization by 2014), under a change in law regulations. As regards the expenditure incurred on the assets claimed in the present petition, the Petitioner has furnished the following specific justification:

Barrier at pilot quarry of South Balanda Mines

42. The Petitioner has claimed the expenditure of Rs.2386.65 lakh (Rs.1506.84 lakh in 2014-15, Rs. 689.03 lakh in 2015-16, RS.157.69 lakh in 2016-17, and Rs. 33.09 lakh in 2017-18) for this asset, based on the following justification:

"It is submitted that the abandoned South Balanda quarry is in a shape of vast void with huge overburden on two sides. The other two sides are on higher elevation connecting to natural ground level. Generally, the embankments of the quarry are not at same level and as continuous ash deposition takes place in view to protect the area against the possible escape of slurry if not checked, may lead to pollution/contamination/safety concerns in nearby areas. Therefore, barriers in the form of check dams, bunds, etc. are constructed to ensure maximum utilization of available capacity for ash disposal along with disposal in confined area thereby ensuring safety measures. In order to meet the statutory obligations/directions of ash discharge and to ensure continuous ash disposal for the TTPS station on sustained basis, protection barrier was constructed between Pilot Quarry and Quarry-2. This barrier was of large dam type and involved huge quantity of earth work and engineering considerations to ensure stability of structure in view of the water pressure due to increasing level of ash slurry in quarry and further to avoid



escape of slurry to the adjacent mines /habitations that may cause safety issues. The work was started from elevation of 100m(RL) and completed at an elevation of 125m (RL)."

Construction of approach road & storm water drain at South Balanda Mines for Ash water decantation system:

43. The Petitioner has claimed the expenditure of Rs.43.25 lakh (Rs. 40.98 lakh in 2014-15 and Rs.2.27 lakh in 2015-16 for this asset, based on the following justification:

"It is submitted that the construction of storm drains was required for safety of the civil structures to avoid failure/damage to the structures during monsoons due to erosion, improper drainage, pondage etc., thereby ensuring proper drainage of the storm water. The approach road was required to ensure access and movement of men, material etc. to the area for any required civil/mechanical works related to ash disposal in quarry along with safety of civil structures/ equipment's."

Laying of 4th ash disposal line to Mine

44. The Petitioner has claimed the expenditure of Rs.327.24 lakh (Rs.321.86 lakh in 2016-17 and Rs.5.38 lakh in 2017-18) for this asset, based on the following justification:

"It is submitted that the ash disposal in instant station was done in South Balanda mines through existing ash disposal lines from the station to mine end which is around 12 km far apart. Further, as these disposal pipes are subjected to wear and tear due to continuous handling of abrasive ash slurry, the chances of sudden rupture or failure at any point of time during disposal of slurry may occur. In view to avoid the potential risk to plant operation as well as pollution/contamination in the vicinity of the plant/habitations in case of failure of the existing pipelines, 4th disposal line to mine end was laid and put to use to mitigate the risk and ensure sustained operations and unhindered functioning of the plant."

45. We have examined the aforesaid submissions. Considering the fact that the (i) EAC, MoEF&CC vide MOM dated 16.3.2017 has extended the permission and clearance for a period of 5 years beyond 2017 for the disposal of fly ash in *South Balanda Mines* (ii) Petitioner has not incurred and claimed any expenditure towards the construction of Ash Pond I & II wherein, it had earlier planned to discharge ash, though an expenditure of Rs.32 crore was allowed on a projection basis, we having taken into consideration the changed circumstances (EAC, MoEF & CC vide MOM dated 16.3.2017, has further extended the permission and clearance for a period of 5 years for disposal of fly ash in *South Balanda Mines*, based on the study of M/s NEERI



and BARC) allow the additional expenditure of Rs.2757.14 lakh on the enabling assets, as listed above, considering them as necessary for the safe disposal of the ash in mines under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

Claims for additional capitalisation under Regulation 14(3)(ii)

46. As against the additional capital expenditure allowed on a projected basis vide Commission's order dated 26.9.2016 in Petition No 334/GT/2014, the actual additional capital expenditure claimed by the Petitioner under Regulation 14(3)(ii) of the 2014 Tariff Regulations, is tabulated below:

(Rs. in lakh)

Head of Work /Equipment's	Additional capital expenditure claimed on a cash basis					Total	Claimed on an accrual basis	Amount allowed vide order dated 26.9.2016 in Petition No 334/ GT/ 2014
	2014-15	2015-16	2016-17	2017-18	2018-19			
Ash water recirculation system works	9.71	129.65	0.47	38.48	0.00	178.31	188.42	180.00
ESP Augmentation & augmentation (2 x 110 MW)	298.67	1619.86	1326.36	287.34	0.00	3532.24	3947.15	3600.00
AFGC (Ammonia flue gas conditioning system) for Stage-I	194.53	24.69	0.00	0.00	0.00	219.22	225.65	200.00
Procurement & installation of 4th AAQMS Station	55.48	0.44	0.00	9.22	0.00	65.13	65.91	69.50
Real Time Data Acquisition System as per SPCB Requirement	22.36	5.47	-0.17	0.00	0.00	27.66	38.76	20.00

47. The Commission vide its order dated 26.9.2016 in Petition No 334/GT/2014 considered and allowed the projected capital expenditure for the works/assets listed



in the above table under Regulation 14(3)(ii) of 2014 Tariff Regulations (change in law), observing that since the claims are in compliance with the directions of the State Pollution Control Board (SPCB), the same are allowable under change in law. The relevant portion of the order on the said claims is as mentioned below:

Ash water recirculation system works

“31. We have considered the submissions made by the Petitioner and as the expenditure of `500 lakh towards Effluent Treatment Plant (ETP) and associated facilities and `180.00 lakh towards Ash Water Recirculation System-Reservoir for Storage of Recirculated Water is in compliance of the directions/guidelines of SPCB vide its letter dated 25.4.2013 to maintain special condition for water pollution control to recycle effluent generated in the generating station and to meet the statutory SPCB requirement to stop discharge of effluent to outside the premises of the generating station as well as recycling of ash water completely, the same is allowed under Regulation 14(3)(ii) of Tariff Regulation 2014.”

ESP Augmentation for stage-II (2 x 110 MW) and AFGC (Ammonia flue gas conditioning system) for Stage-I;

“26. We have examined the submissions. Considering the fact that the additional capital expenditure of `200 lakh towards AFGC (Ammonia flue gas conditioning system) for Stage-I and `3600 lakh towards ESP Augmentation (2 x 110 MW) is in compliance of the directions/guidelines of CPCB and with consent of SPCB, the same is allowed under Regulation 14(3)(ii) of 2014 Tariff Regulations. The Petitioner is however directed to submit the details of the actual expenditure along with the decapitalisation at the time of revision of tariff based on truing up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.”

Procurement & installation of 4th AAQMS Station and Real Time Data Acquisition System as per SPCB Requirement

“24. Considering the fact that the additional capital expenditure towards Procurement & installation of 4th AAQMS Station & Real Time Data Acquisition System is in compliance of the directions/guidelines of SPCB vide letter dated 30.5.2012 to install one more AAQMS station and a real time data acquisition system for transmitting real time Ambient Air Quality & Opacity data to their server (AAQMS), the same is allowed under Regulation 14(3)(ii) of 2014 Tariff Regulations.”

48. With regard to the increase in the additional expenditure, as compared to the projected additional expenditure allowed vide order dated 26.9.2016 in Petition No 334 /GT/2014 for individual works/assets, the Petitioner has submitted that the increase in cost is on account of the increase in actual awarded value of the said works. Considering the fact that the actual additional expenditure incurred is reasonable and since the variation as compared to the projected expenditure is not huge, we allow the



actual additional capital expenditure claimed for the said works/assets under Regulation 14(3)(ii) of 2014 Tariff Regulations, as tabulated below:

Head of Work /Equipment	Actual additional capital expenditure					Total	Allowed
	2014-15	2015-16	2016-17	2017-18	2018-19		
Ash water recirculation system works	9.71	129.65	0.47	38.48	0.00	178.31	178.31
ESP Augmentation (2 x 110 MW)	298.67	1619.86	1326.36	287.34	0.00	3532.24	3532.24
AFGC (Ammonia flue gas conditioning system) for Stage-I	194.53	24.69	0.00	0.00	0.00	219.22	219.22
Procurement & installation of 4th AAQMS Station	55.48	0.44	0.00	9.22	0.00	65.13	65.13
Real Time Data Acquisition System as per SPCB Requirement	22.36	5.47	-0.17	0.00	0.00	27.66	27.66

Augmentation of Fire-fighting system

49. The year-wise break-up of the actual additional capital expenditure claimed by the Petitioner under Regulation 14(3)(ii) and (iii) of the 2014 Tariff Regulations is as under:

(Rs. in lakh)					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	42.42	0.00	0.00	126.95	169.36*

*cash basis, Gross expenditure on an accrual basis is Rs. 234.13 lakh

50. The Petitioner has claimed the actual additional capital expenditure of Rs. 42.42 lakh in 2015-16 and Rs. 126.95 lakh in 2018-19 towards the Augmentation of Firefighting system under Regulation 14(3)(ii) and (iii) of the 2014 Tariff Regulations as against the projected additional capital expenditure of Rs 205.00 lakh allowed on projected basis vide order dated 26.9.2016 in Petition No 334/GT/2014, as under:



“29.....As regards the claim for projected additional capital expenditure towards Augmentation of firefighting system in for UCBs, Stacker/Reclaimer & R1/ R2 Conveyors of CHP etc. based on the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric lines) Regulations, 2010. It is clear from the submissions of the Petitioner that the installation of Fire Protection & Detection System (MVW) is in the balance area for safety of plant & machinery i.e. i) R1/R2 Conveyor and Stacker/Reclaimer, which are presently not available and the majority of Fire Protection/Detection Works for CHP has already been completed in past. Accordingly, we are inclined to allow the works towards augmentation of a fire fighting system for balance area for safety of plant & machinery under Regulation 14(3)(ii) of 2014 Tariff Regulations.”

51. Considering the fact that the actual additional capital expenditure incurred is reasonable and the variation with the projected additional capital expenditure allowed earlier is also not huge, we allow the claim of the Petitioner under Regulation 14(3)(ii) of 2014 Tariff Regulations.

Retrofitting of boiler lift

52. The year-wise break-up of the actual expenditure claimed by the Petitioner under Regulation 14(3)(iii) of the 2014 Tariff Regulations is as under:

(Rs. in lakh)					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	52.65	0.00	62.10	0.00	114.75*

*cash basis, Gross expenditure on an accrual basis is Rs. 120.60 lakh

53. The Petitioner has claimed a total actual additional capital expenditure of Rs 114.75 lakh (i.e., Rs. 52.65 lakh in 2015-16 and Rs. 62.10 lakh in 2017-18) towards the retrofitting of the boiler lift, covered under originally approved works of Phase-III R&M of the generating station under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification, the Petitioner has submitted that since the Commission vide its order dated 26.9.2016 in Petition No. 334/GT/2014 had allowed the leftover works of R&M Phase-III to be claimed during the period 2014-19, the additional expenditure claimed in this petition, may be allowed under Regulation 14(3)(ii) and(iii) of the 2014 Tariff Regulation. We notice that the Commission, in para 17 of the order dated 15.5.2014 in Petition No. 304/2009, had recognized the balance estimated



expenditure to the tune of Rs. 69.12 crores against leftover schemes of R&M Phase-III to be incurred beyond the period 2009-14. Considering the fact that the work of Retrofitting the boiler lift forms part of the R&M Phase-III and is essentially required for the safe operation of the plant, we allow the actual additional capital expenditure claimed by the Petitioner under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

Supply of power under the 5 km radius scheme

54. The Petitioner has claimed the actual additional capital expenditure of Rs. 55.99 lakh towards the power supply under the 5 km radius scheme in 2015-16, under 14(3)(vi) of 2014 Tariff Regulations, as against the final payment towards the said scheme allowed earlier. We notice that the scheme for supply of electricity within 5 KM radius around Central Power Plants was withdrawn vide MOP, GOI notification dated 25.3.2013. However, it is noticed that the Ministry of Power, GOI, by letter dated 8.3.2014, granted exemption in respect of 8 ongoing projects around the generating stations of the Petitioner, including this generating station, under the erstwhile scheme and has conveyed the approval for capitalization of expenditure for this generating station also as per provisions of the said scheme, subject to orders of this Commission. In the Commission's order dated 31.8.2016 in Petition No 273/GT/2014 (truing-up of the tariff of this generating station for the period 2009-14), the Petitioner was directed to recover the expenditure incurred against the scheme directly from the beneficiaries in proportion to their share. In line with this decision, the expenditure incurred on this count is not allowed for additional capitalisation, but the same may be recovered directly from the beneficiaries.

New claims

Claims under change in law -Regulation 14(3) (ii)

Continuous Emission Monitoring System (CEMS) & Emission Quality Monitoring Station (EQMS)



55. The Petitioner has claimed the actual additional capital expenditure of Rs. 253.55 lakh towards the Continuous Emission Monitoring System (CEMS) and Emission Quality Monitoring Station (EQMS) in 2015-16 under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification, the Petitioner has submitted that these monitoring equipment's have been installed in compliance with the directives of the Central Pollution Control Board (CPCB) dated 5.2.2014 and the subsequent directions of the State Pollution Control Board (SPCB) dated 15.2.2016, granting consent to operate the generating station.

56. Respondent GRIDCO has submitted that the expenditure claimed may not be allowed, as no bidding documents, including the lowest evaluated cost, Commercial Operation Certificate from the SPCB, the Benchmark cost, Performance report, Life span, etc., have been submitted by the Petitioner.

57. We note that the claim of the Petitioner is for compliance with the directives/ directions of the CPCB/SPCB dated 5.2.2014/15.2.2016, towards the discharge of Sewage and Trade effluents under Sections 25 and 26 of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. The relevant portion of the Act is extracted below: -

"F SPECIAL CONDITIONS

F1 (Air Pollution Control)

1.....

2.....

4. All the online continuous stack emission monitoring systems (CEMS) for measurement of particulate matter and gaseous pollutants shall be operated effectively and un-interruptedly. The online monitoring data so generated shall be transmitted to SPCB and CPCB sever on a continuous basis."

F2 (Water Pollution Control)

1. xxx

5. The online continuous effluent quality monitoring systems (EQMS) shall be operated effectively and uninterruptedly



58. Since the claim of the Petitioner is on account of a change in law/compliance with the existing law, the same is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

Replacement of CFL/HPSV with energy-efficient LED lighting

59. The year-wise break-up of the actual expenditure claimed by the Petitioner under Regulation 14(3)(ii) of the 2014 Tariff Regulations is as under:

<i>(Rs. in lakh)</i>					
2014-15	2015-16	2016-17	2017-18	2018-19	Total
0.00	0.00	11.75	201.22	0.00	212.97*

**cash basis, Gross expenditure on an accrual basis is Rs. 214.85 lakh*

60. The Petitioner has submitted that the Hon'ble Prime Minister of India on 5.1.2015 launched the National LED Programme with the objective of reducing energy consumption by using energy-efficient lighting. Accordingly, in line with the objective, Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme is being implemented by EESL. The Petitioner has submitted that through MoP, GoI letter dated 2.8.2017, it was mandated to replace all old bulbs with LED bulbs in all NTPC buildings, including compound/ street lighting occupied by NTPC. The Petitioner, while pointing out that the directions of the Government of India are required to be implemented and have the force of law, has submitted that in order to comply with the said directions contained in the MOP letter dated 2.8.2017, the Petitioner undertook the work of replacing the old lights with LED lighting in the premises of the generating station compound/ building owned and operated by the Petitioner and therefore, the claim may be allowed under a change in law.

61. Respondent GRIDCO has submitted that the claim of the Petitioner is not covered under the provisions of Regulation 14(3) of the 2014 Tariff Regulations. It has



also contended that the said amount, spent after the cut-off date, may not be allowed for the purpose of tariff as the same forms part of the O&M expenses.

62. We have considered the rival submissions. It is noticed that the additional capital expenditure incurred towards the installation of 'LED lights' is in terms of the MOP, GOI letter dated 2.8.2017, which recommends the replacement of existing old bulbs with LED bulbs, resulting in a reduction of about 50% to 90% in energy consumption by lighting. In our view, the letter of the MOP GOI is recommendatory in nature and cannot be construed as a 'change in law' event or for compliance with an existing law to consider the additional capital expenditure claimed by the Petitioner. Moreover, the benefits of replacing the incandescent light with the LED lighting system only accrue to the Petitioner. Hence, the additional capital expenditure claimed by the Petitioner is **not allowed**.

Claims Under Regulation 14(3) read with Regulations 54 (Power to relax)

63. The Petitioner has claimed the additional capital expenditure for the following items/assets under Regulation 14(3) read with Regulation 54 (Power to relax) of the 2014 Tariff Regulations.

Claims	<i>(Rs. in lakh)</i>						Total on Cash Basis	On Accrual Basis
	2014-15	2015-16	2016-17	2017-18	2018-19			
Spare Rotor assembly for 60 MW steam turbine for Stage-I.	2339.89	-	-	-	-	2339.89	2637.71	
Design, Supply, Erection and Commissioning of Grid connected Roof Top Solar PV Panels at Talcher Thermal.	-	-	-	-	70.54	70.54	78.06	
CW chemical treatment stage I	44.81	41.00	-	-	-	85.81	90.90	
Construction of transformer oil collection pit.	43.30	-	-	-	-	43.30	45.51	
Stage II PA fan lube oil system U-6.	7.23	-	-	-	-	7.23	7.23	
Bio-methanation plant for generation of bio-gas fuel at plant canteen.	-	13.91	-	-	-	13.91	15.68	



Anti-corrosion /energy efficient improvement coating of CW pumps in offsite area.	-	-	-	11.57	88.92	100.49	101.98
RCC foundation in railway track for stand by motion -weigh bridge and toe wall.	-	-	-	-	0.80	0.80	0.80
Capitalisation of MBOA items	51.61	209.87	134.30	119.38	88.56	603.72	1014.84

Spare Rotor assembly for 60 MW steam turbine for Stage-I.

64. The Petitioner has claimed the additional capital expenditure of Rs. 2339.89 lakh in 2014-15 for Spare Rotor assembly for a 60 MW Steam Turbine for Stage-I of the generating station and has submitted the following:

- (a) The plant is old and has old vintage units of 60 MW; the spare parts for the unit are very difficult to arrange in case of any emergent requirement due to failure. The non-availability of a spare rotor, in case of failure, will result in an interruption of supply to the sole beneficiary. One no. of spare rotor was purchased from the OEM M/s GE for using as a spare rotor, as the rotor of Unit-4 has been declared as unrepairable. The spare rotor is a critical spare, capitalised for the successful running of Stage-I units up to 2021, booked under capital spares as per accounting standards.
- (b) The Commission vide its order dated 7.6.2013 in Petitioner No. 212/2010 had directed that any requirement for replacement of any components/system on a need basis during the normal operation during the remaining life of these units could be booked under O&M expenses rather than capitalization of the expenditure, because of the increase in tariff, particularly when the units are to be phased out in next 6-7 years period. Since there is under recovery to the tune of 30% in the generating station as against the O&M norms allowed, the same may be allowed as additional O&M expenses as per the order dated 7.6.2013.

65. The Commission, vide ROP of the hearing dated 27.6.2024, directed the Petitioner to submit the following additional information with regard to the procurement of spare rotor for Stage-I units:

“The reasons for claiming Rs. 2637.71 lakh in 2014-15 towards additional capital expenditure i.e. ‘spare rotor assembly for 60 mw steam turbine for stage i’, beyond the ceiling limit allowed for spares. Further, the reasons for procuring the same, after decision taken for decommissioning of units and future procurement shall be on need basis along with details of put to use of this asset and decapitalized value of old asset.”



66. In response, the Petitioner vide affidavit dated 12.7.2024 has submitted the following:

a. *The TTPS station is an old vintage station taken over by the petitioner in 1995 with Units of Stage-I of 60 MW each commissioned by the erstwhile OSEB during 1967-69. The spare parts for these 60 MW units are very difficult to arrange in case of any emergent requirement due to failure/ breakdown and hence required at the station so that there is no stalling of operations. The non-availability of spare rotor in case of failure would result in interruption of supply to sole beneficiary i.e. GRIDCO, therefore to ensure reliable and unhindered functioning of the station till 2021, one no. of spare rotor was purchased from OEM M/S GE for using as spare rotor, as the rotor of Unit-4 has been declared as unrepairable. The spare rotor is a critical spare essential for sustained operation of the plant, same has been capitalised in year 2014-15 for successful running of Stage-I unit up to 2021 and booked under capital spares as per accounting standard.*

b. *It is submitted that the critical spare of such vintage era units of 60MW would not be readily available at short notice and are not off the shelf equipment/parts when required in case of failure/ breakdown, the unavailability of the same would have affected the generation and power supply to the beneficiary. The petitioner ensured high availability and PLF during the 2014-19 period and consistently supplied electricity from TTPS station to its sole beneficiary.*

c. *It is further submitted that the Hon'ble Commission vide Order dated 07.06.2013 in Petition No. 212/2010 had directed "Any requirement for replacement of any components/system on need basis during the normal operation during the remaining life of these units could be booked under O&M expenses rather than capitalization of the expenditure considering the fact that increase in tariff particularly when the units are to be phased out in next 6-7 years period, would not be desirable." It is humbly submitted that there is an under recovery (O&M expenses) to the tune of 30% in instant station against allowed norms. Further, the Hon'ble Commission in Statement of Reasons for Tariff Regulations, 2014 determined the norms for the station on the basis of actual expenses incurred during FY 2008-09 to FY 2012-13 after normalisation and 2013-14 specified norms, hence the requirements that may arise or needed for operation of such units during 2014-19 has not been factored in the O&M norms. In view of the above, the Hon'ble Commission may be pleased to allow the same as additional O&M expenses as per order dated 07.06.2013*

d. *Since, rotor assembly for 60 MW steam turbine for stage-I was not used during tariff period 2014-19, the Petitioner humbly prays the Hon'ble commission to either allow same as additional O&M expenses in view of Order dtd. 07.06.2013 in tariff period 2014-19 or grant liberty to allow the same after completion of useful life of station i.e. 31.03.2021 wherein the petitioner has filed a separate petition for 2019-24 tariff period in view of closure of station.*

67. Respondent GRIDCO has submitted that the claim of the Petitioner is not covered under the provisions of Regulation 14(3) of the 2014 Tariff Regulations. It has also contended that the said amount, spent after the cut-off date, cannot be allowed for the purpose of tariff as the same forms part of the O&M expenses.

68. We have examined the above submissions. The Commission, in its order dated 31.8.2016 in Petition No.273/GT/2014, had observed that the amount of Rs. 2795.64



lakh towards capitalization of capital spares during the period from 2009-10 to 2012-13 was not allowed in its earlier order dated 15.5.2014 in Petition No. 304/2009 with remarks as under:

“It is observed that Commission by its orders had allowed expenditure of `1100 lakh during 1995-2000 and `1919 lakh during 2002-04 on this count. Thus, the total initial spares capitalized after takeover of the generating station is `3019 lakh. The total capitalization of expenditure for R&M including R&M during 2009-14 works out to around `70000 lakh. Therefore, the initial spares capitalized in respect of the generating station works out to more than 2.5% of total R&M expenses. In view of this, the claim for capitalization of capital spares has not been allowed.”

69. In the above background and since the spares capitalized is more than 2.5% of the total R&M expenditure, the capitalization of spares during the period 2014-19 is not allowed. Further, considering the fact that the said rotor was not put to use during the period 2014-19, the expenditure cannot be considered as additional O&M under “capital spares consumed.” However, the Petitioner is at liberty to claim the expenditure during the period 2019-24, subject to the spare rotor being put to use.

Design, Supply, Erection, and Commissioning of Grid-connected Roof Top Solar PV Panels and Anti-corrosion/energy efficient improvement coating of CW pumps

70. The Petitioner claimed the additional capital expenditure of Rs. 70.54 lakh in 2018-19 for the Commissioning of Grid-connected Roof Top Solar PV Panels and Rs. 11.57 lakh in 2017-18, and Rs. 88.92 lakh in 2018-19 towards Anti-corrosion/energy efficient improvement coating of CW pumps. In justification, the Petitioner has submitted that these works form part of the capital expenditure necessary for the continuous operation of the station beyond its useful life and are carried out to reduce the energy consumption of the station and help in reducing the auxiliary power consumption (APC) of the generating station, for the benefit of the beneficiary. It has been submitted that since no Compensation allowance and Special allowance are admissible for the generating station, the claims may be allowed under this head.



71. We notice that the Petitioner has not furnished any justification for the additional capitalization of these assets, except for the fact that the said expenditure will help in reducing the energy consumption and APC of the generating station. The Petitioner has also not furnished the benefits/ advantages that the beneficiaries will derive from the expenditure incurred on this count. In the absence of proper justification, we find no reason to allow the claim in relaxation of the provisions of the regulations as sought by the Petitioner. Accordingly, the claim of the Petitioner is not allowed.

Construction of transformer oil collection pit

72. The Petitioner has claimed the additional capital expenditure of Rs. 43.30 lakh in 2014-15 for the Construction of transformer oil collection pit. In justification, the Petitioner has submitted that the said expenditure was made to avoid the contamination of land & water by providing temporary storage of oil from transformers, etc., during oil spillage/unforeseen incident, as recommended by the National Security Council (NSC) & Technical Audit of the generating station. It has also stated that since no Compensation allowance and Special allowance is admissible for the generating station, the expenditure may be allowed.

73. We have examined the matter. The recommendations of the National Safety Council (NSC), as referred to by the Petitioner read as under:

“Oil soak pits are old type and do not appear to be functioning alright. These may be replaced with better design oil soak pits so that oil can be safely and easily drained and collected. A physical oil separator may be installed at the end”.

74. We observe that the above recommendation has been made by a body that is not a Governmental Instrumentality. Further, the recommendation is in the nature of an advisory and was made considering the fact that the existing oil soak pits were not functioning properly. As the Petitioner has not maintained the existing Oil soak pits, we are not inclined to allow the claim of the Petitioner in the exercise of the power



under Regulation 54 (power to relax) of the 2014 Tariff Regulations, more so when such expenditure could have been avoided by proper maintenance of the existing facility.

Stage II PA fan lube oil system U-6

75. The Petitioner has claimed the additional capital expenditure of Rs. 7.23 lakh in 2014-15 for Stage-II PA fan lube oil system Unit-6. In justification, the Petitioner has submitted that the lube oil system is provided in the PA fan to ensure the reliability and sustainability of the operation. It has been submitted that the work was allowed for Unit-5 of Stage-II in 2013-14 vide Commission's order dated 15.5.2014 in Petition No. 304/2009, and hence, the claim for Unit-6 may be allowed. We note that the Petitioner has not brought out which part of the lube oil system has been replaced. It is also noticed that the said expenditure was neither claimed by the Petitioner nor allowed in the order dated 15.5.2014 on a projected basis. In the present petition, no relevant justification has been furnished by the Petitioner for considering the same in the exercise of the powers under Regulation 54 of the 2014 Tariff Regulations. For these reasons, the claim of the Petitioner is not allowed.

Bio-methanation plant for generation of bio-gas fuel at plant canteen

76. The Petitioner has claimed the additional capital expenditure of Rs. 13.91 lakh in 2015-16 towards a Bio-methanation plant for the generation of bio-gas fuel. In justification, the Petitioner has submitted that the said work (Bio-methanation plant for generation of bio-gas fuel at plant canteen) was executed as part of the Sustainable Development activities, in accordance with MOEFCC notification dated 8.4.2016, on Solid Waste Management Rules, 2015. It has also stated that since no Compensation allowance and Special allowance are admissible for the generating station, the claims may be allowed under this head.



77. We have examined the MOEF Notification dated 8.4.2016. In our view, the expenditure claimed is neither directly related to the operation of the generating station nor the same would provide any direct benefit to the beneficiary. It is also observed that the expenditure claimed has been incurred in 2014-15, i.e., for a period prior to the notification dated 8.4.2016, and the same has been submitted in justification of the incurred expenditure claimed. In view of this, we are not inclined to allow the additional capital expenditure claimed by the Petitioner.

RCC foundation in railway track for stand-by motion -weighbridge and toe wall

78. The Petitioner has claimed the additional capital expenditure of Rs. 0.80 lakh in 2018-19 for the RCC foundation in the Railway track. In justification, the Petitioner has submitted that the generating station has only one weighbridge; the standby weighbridge is being installed for the measurement of rakes. It has also stated that an accurate measurement of coal received is required for minimising losses in the coal received.

79. The Petitioner has not furnished any relevant justification in respect of the expenditure claimed as above. In our view, the expenditure claimed is in the nature of O&M expenses. In this backdrop, the claim of the Petitioner is not allowed.

CW Chemical treatment Stage-II

80. The Petitioner has claimed the additional capital expenditure of Rs. 44.81 lakh in 2014-15 and Rs. 41.00 lakh in 2015-16 for CW Chemical Treatment Stage-II. In justification, the Petitioner has submitted that the said work was taken up to reduce the fouling of condenser tubes due to CW water over the period by chemical treatment of water to improve the condenser vacuum, and to reduce the water consumption. It has also stated that since no Compensation allowance and Special allowance are



admissible for the generating station, the claims may be allowed under this head. In our view, the expenditure incurred is in the nature of O&M expenses, and therefore, we find no reason to allow the additional capitalisation of the same.

Capitalisation of MBOA items

81. The Petitioner has claimed the additional capital expenditure of Rs. 51.61 lakh in 2014-15, Rs. 209.87 lakh in 2015-16, Rs.134.30 lakh in 2016-17 Rs. 119.38 lakh in 2017-18, and Rs. 88.56 lakh in 2018-19 toward MBOA items. The Petitioner has submitted that the capitalisation of these essential MBOA items has been carried out for the successful and reliable operation of the generating stations. It has further submitted that O&M expenses allowed for the generating station are having under-recovery of more than 30% annually. The petitioner has added that being an old station, there is no compensation and special allowance admissible, and hence, the expenditure for MBOA items may be allowed.

82. Respondent GRIDCO has submitted that the additional expenditure claimed towards MBOA does not fall under the purview of Regulation 14(3) of the 2014 Tariff Regulations. It has been argued that since the said expenditure has been incurred after the cut-off date and forms part of the O&M expenses, the same may not be allowed for the purpose of tariff.

83. We have examined the matter. It is pertinent to note that in terms of the 2014 Tariff Regulations, the MBOAs capitalized after the cut-off date of the generating station are not allowable during the useful life of the generating station. However, considering the fact that all units have outlived their useful life and the generating station is neither eligible for Compensation allowance nor Special allowance, the actual expenditure incurred towards the Procurement of new MBOAs is allowed as the



replacement of the old assets is for the efficient operation of the generating station. The decapitalization of old assets has been considered separately under the heading “Decapitalization”.

Decapitalization

84. Against the claim of the Petitioner, the following decapitalization is allowed in accordance with Form 9Bi, along with the spares and MBOA, which form part of the capital cost in terms of Regulation 14(4) of the 2014 Tariff Regulations.

<i>(Rs. in lakh)</i>					
Decapitalization	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalisation against ESP R&M	0.00	(-) 79.48	0.00	(-) 41.01	0.00
Decapitalisation of Residential quarters.	0.00	0.00	0.00	(-) 149.88	0.00
Decapitalisation of Vehicles	0.00	0.00	0.00	(-) 2.76	0.00
Decapitalisation of Spares: Part of Capital Cost	(-) 20.37	(-) 325.55	(-) 121.32	(-) 91.02	(-) 232.03
Decapitalisation of MBOA part of capital cost	(-) 4.69	0.00	(-) 46.20	(-) 0.24	(-) 42.68
Total	(-) 25.06	(-) 405.03	(-) 167.52	(-) 284.92	(-) 274.71

85. As regards the decapitalization of Rs.120.49 lakh (79.48+41.01) against ESP R&M, the Commission vide ROP of the hearing dated 6.2.2024, directed the Petitioner to submit additional information on the following:

“In spite of claiming Rs. 3947.15 lakh during the period 2014-19 and Rs. 312.67 lakh during the period 2019-24 towards upgradation of ESP, the reasons for claiming de-capitalization amounting to Rs. 120.40 lakh only, along with the basis of arriving at such de-capitalization value.”

86. The Petitioner vide affidavit dated 31.5.2024 has submitted the following:

TTPS station is an old vintage station taken over by the petitioner in 1995 with Units of Stage-II of 110 MW each commissioned by the erstwhile OSEB during 1982-83 wherein the original value of the existing equipment/part of equipment for ESP was not available with the petitioner. Therefore, in view of new equipment’s/components installed during ESP upgradation for both units i.e. Unit No.5 and Unit No.6 corresponding decapitalization amounting to Rs. 120.40 lakhs have been considered which is duly certified by auditor in Form-9A for the respective years and submitted by the petitioner vide affidavit dated 30.06.2021



87. Further, with respect to de-capitalisation amount towards ESP R&M, the Petitioner vide affidavit dated 12.7.2014 (filed in response to ROP of hearing dated 27.6.2024) has submitted as under:

It is submitted that the scope of the works in ESP Augmentation included design, engineering, supply of main equipment, erection and commissioning of the equipment/system for upgradation and retrofitting of existing ESP of Unit No.5 and Unit No.6 i.e. increasing height, increasing collection electrode spacing, internals etc. along with installation of new additional pass for ensuring sufficient collection area in each stage-II unit. The works of ESP augmentation was capitalized based on the schedule works from 2014-18 wherein the execution of the works was taken up in phased manners for optimizing the generation/ availability of the station in view to ensure sustained operation the plant. Further, TTPS station is an old vintage station taken over by the petitioner in 1995 with Units of Stage-II of 110 MW each commissioned by the erstwhile OSEB during 1982-83 wherein the original value of the existing equipment/part of equipment for ESP was not available with the petitioner. As, the scope of works for ESP augmentation as detailed above included supply, erection and services part for the existing and new facilities, therefore in view of the new equipment's/components installed in existing ESP amounting to value of Rs. 635.85 lakhs in 2015-16 and Rs. 328.05 lakhs in 2017-18 during upgradation and retrofitting of existing ESP for both units i.e. Unit No.5 and Unit No.6, corresponding decapitalization amounting to Rs. 79.48 lakhs and Rs. 41.01 lakhs at 12.5% for same has been considered (refer Order dated 07.06.2013 in Petition dated. 212/2010). Further, most of the balance expenditure was related with the installation of new ESP pass and hence no corresponding decapitalization is required. Further, the petitioner has also submitted the details of decapitalization against ESP for the respective years in Form -9A duly certified by auditor vide submission dated 30.05.2024.

88. In consideration of the above justification furnished by the Petitioner, the decapitalisation amount for ESP R&M amounting to Rs.120.49 lakh (Rs.79.48+Rs.41.01) is allowed as it is in line with the earlier direction of the Commission, that the decapitalised amount for the generating station shall be considered as 1/8 of the expenditure incurred on the new asset. Further, considering the fact that the decapitalized assets do not render any useful service in the operation of the plant, the decapitalization amount claimed by the Petitioner is allowed for the purpose of tariff.

Discharge of liabilities

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
187.74	120.79	184.22	245.56	45.60



90. The discharge of liabilities allowed as part of the admitted additional capital expenditure are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
187.74	38.67	170.73	142.47	43.98

91. Further, the flow of un-discharged liability, corresponding to the allowed assets/works, during the period 2014-19, are as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Un-discharged liabilities as on 1.4.2014	222.87	275.36	465.34	537.27	373.53
Additions during the period 2014-19 (corresponding to allowed additional capital expenditure) (B)	240.23	307.82	251.24	80.53	72.70
Discharges during the period 2014-19 (corresponding to allowed additional capital expenditure) (C)	187.74	117.84	179.13	243.91	43.98
Reversal of Liabilities out of liabilities added during the period 2014-19 (corresponding to allowed additional capital expenditure) (D)	0.00	0.00	0.17	0.36	0.00
Closing Un-discharged liabilities (E) = (A+B-C-D)	275.36	465.34	537.27	373.53	402.25

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

<i>(Rs in lakh)</i>						
Sl. No	Head of Work /Equipment	Additional capital expenditure allowed				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Allowed/Claimed Works					



Sl. No	Head of Work /Equipment	Additional capital expenditure allowed				
		2014-15	2015-16	2016-17	2017-18	2018-19
1	Switchyard R&M balance payment.	0.00	1.30	0.00	0.00	0.00
2	Replacement of all Extraction NRVs, CRH NRVs & Gland steam change over valves with Servo motors (stage-II)	396.09	0.00	0.00	0.00	0.00
3	Raising /construction of contingency ash dyke at lagoon 1.	165.40	0.00	55.34	0.00	0.00
4	Mine Void filling through Ash Works	1547.82	691.30	479.55	38.47	0.00
5	AWRS works	9.71	129.65	0.47	38.48	0.00
6	ESP Augmentation & augmentation (2 x 110 MW)	298.67	1619.86	1326.36	287.34	0.00
7	AFGC (Ammonia flue gas conditioning system) for Stage-I	194.53	24.69	0.00	0.00	0.00
8	Procurement & installation of 4th AAQMS Station	55.48	0.44	0.00	9.22	0.00
9	Real Time Data Acquisition System as per SPCB Requirement	22.36	5.47	(-)0.17	0.00	0.00
10	Augmentation of Firefighting system.	0.00	42.42	0.00	0.00	126.95
11	Retrofitting of boiler lifts	0.00	52.65	0.00	62.10	0.00
12	5km scheme	0.00	0.00	0.00	0.00	0.00
	Subtotal	2690.07	2567.78	1861.54	435.61	126.95
	New Claims					
1	Continuous Emission Monitoring System (CEMS) & Emission Quality Monitoring Station (EQMS)	0.00	253.55	0.00	0.00	0.00
2	Replacement of CFL/HPSV with energy efficient LED lighting.	0.00	0.00	0.00	0.00	0.00
3	Spare Rotor assembly for 60 MW steam turbine for Stage-I.	0.00	0.00	0.00	0.00	0.00
4	Design, Supply, Erection and Commissioning of Grid connected Roof Top Solar PV Panels at Talcher Thermal.	0.00	0.00	0.00	0.00	0.00
5	CW chemical treatment stage-I	0.00	0.00	0.00	0.00	0.00
6	Construction of transformer oil collection pit.	0.00	0.00	0.00	0.00	0.00
7	Stage II PA fan lube oil system U-6.	0.00	0.00	0.00	0.00	0.00
8	Bio-methanation plant for generation of bio-gas fuel at plant canteen.	0.00	0.00	0.00	0.00	0.00



Sl. No	Head of Work /Equipment	Additional capital expenditure allowed				
		2014-15	2015-16	2016-17	2017-18	2018-19
9	Anti-corrosion /energy efficient improvement coating of CW pumps in offsite area.	0.00	0.00	0.00	0.00	0.00
10	RCC foundation in railway track for stand by motion - weigh bridge and toe wall.	0.00	0.00	0.00	0.00	0.00
11	Capitalisation of MBOA items	51.61	209.87	134.30	119.38	88.56
	Subtotal	51.61	463.43	134.30	119.38	88.56
	De-capitalization					
1	Decapitalisation against ESP R&M	0.00	(-)79.48	0.00	(-)41.01	0.00
2	De-capitalisation-Residential quarters.	0.00	0.00	0.00	(-)149.88	0.00
3	De-capitalisation of Vehicles	0.00	0.00	0.00	(-)2.76	0.00
4	Decapitalisation of Spares: Part of capital cost	(-)20.37	(-)325.55	(-)121.32	(-)91.02	(-)232.03
5	Decapitalisation of MBOA part of capital cost	(-)4.69	0.00	(-)46.20	(-)0.24	(-)42.68
	Total Decapitalisation	(-)25.06	(-)405.03	(-)167.52	(-)284.92	(-)274.71
	Discharge of admitted Liabilities	187.74	117.84	179.13	243.91	43.98
	Exclusions not allowed	-	-	(-)388.85	-	-
	Total Additional capital expenditure allowed	2904.35	2744.02	1618.62	513.98	(-)15.22

Capital cost allowed for the period 2014-19

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

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	100389.87	103294.22	106038.24	107656.86	108170.84
Add: Additional capital expenditure	2904.35	2744.02	1618.62	513.98	(-)15.22
Closing capital cost	103294.22	106038.24	107656.86	108170.84	108155.62
Average capital cost	101842.05	104666.23	106847.55	107913.85	108163.23

Debt-Equity Ratio

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

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

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



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

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

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

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

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

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

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

95. Accordingly, the gross normative loan and equity amounting to Rs.56370.16 lakh and Rs.44019.71 lakh, respectively, as on 1.4.2014, as considered in order dated 26.9.2016 in Petition No. 334/GT/2014, have been retained as on 1.4.2014. The Petitioner has claimed the debt-equity ratio of 70:30 for the additional capital expenditure during the period 2014-19. In accordance with Regulation 19(5) of the 2014 Tariff Regulations, the debt-equity ratio of 70:30 has been considered for additional capital expenditure. Further, for the assets de-capitalised during the period 2014-19, the debt-equity ratio of 50:50 has been considered for those assets that were put to use prior to 1.4.2004, with the allocation to debt and equity in the ratio of 50:50. For assets put to use after 1.4.2004, where debt and equity in the ratio of 70:30 was



initially allowed, the same ratio of 70:30 has been considered for the purpose of decapitalisation. Accordingly, the details of the debt-equity ratio in respect of the generating station as on 1.4.2014 and as on 31.3.2019, are as under:

Funding	Capital cost as on 1.4.2014		Additional Capital Expenditure		Decapitalization				As on 31.3.2019	
	Amount (in Rs Lakh)	(%)	Amount (in Rs Lakh)	(%)	Amount (in Rs Lakh)	(%)	Amount (in Rs Lakh)	(%)	Amount (in Rs Lakh)	(%)
Debt	56370.16	56.15%	6518.28	70.00%	61.90	70.00%	728.83	50.00%	62097.71	57.42%
Equity	44019.71	43.85%	2793.55	30.00%	26.53	30.00%	728.83	50.00%	46057.90	42.58%
Total	100389.87	100.00%	9311.83	100.00%	88.42	100.00%	1457.66	100.00%	108155.62	100.00%

Return on Equity

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

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

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

Provided that:

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

97. 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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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

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

98. The Petitioner has claimed the ROE for the period 2014-19 after grossing up the base rate of 15.50% with Effective Tax rates (based on MAT rates) for the respective years, in terms of Regulation 25 of the 2014 Tariff Regulations. The same has been considered. Accordingly, ROE has been worked out as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening		44019.71	44886.43	45628.82	46012.58	46113.19
Add: Addition of Equity due to additional capital expenditure		866.72	742.39	383.76	100.61	-55.29
Normative Equity – Closing		44886.43	45628.82	46012.58	46113.19	46057.90
Average Normative Equity		44453.07	45257.63	45820.70	46062.89	46085.55



Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-tax) - (annualised)	8717.25	8918.02	9028.97	9076.69	9105.58

Interest on loan

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

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

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

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

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

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

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

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

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

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

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

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations,



1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

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

- i) The gross normative loan of Rs.56370.16 lakh as on 1.4.2014, as consider in an order dated 26.9.2016 in Petition No. 334/GT/2014, has been retained as on 1.4.2014.
- ii) Cumulative repayment of Rs. 50857.83 lakh as on 1.4.2014, as considered in an order dated 26.9.2016 in Petition No. 334/GT/2014, has been retained as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 works out as Rs.5512.33 lakh.
- iv) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- v) Depreciation allowed has been considered as repayment of normative loan during the respective years of the period 2014-19. Further, the repayments have been adjusted for de-capitalisation of assets considered for the purpose of tariff. Further also, proportionate adjustment has been made to the repayments corresponding to discharges and reversal of liabilities considered during the respective years on account of cumulative repayment adjusted, corresponding to liabilities deducted, as on 1.4.2009
- vi) The Petitioner has claimed the interest on loan considering the weighted average rate of interest (WAROI) of 6.500% in 2014-15, 6.391% in 2015-16, 6.533% in 2016-17, 6.582%% in 2017-18 and 6.776% in 2018-19. The WAROI has been calculated by applying the actual loan portfolio existing as on 1.4.2014, along with subsequent additions during the period 2014-19 for the generating station.

101. Necessary calculations for the interest on loan is as under:

		<i>(Rs. in lakh)</i>				
		2014-15	2015-16	2016-17	2017-18	2018-19
A	Gross opening loan	56370.16	58407.79	60409.41	61644.26	62057.64
B	Cumulative repayment of loan upto previous year	50857.83	55391.62	60082.05	61644.26	62057.64
C	Net Loan Opening (A-B)	5512.33	3016.17	327.36	0.00	0.00
D	Addition due to additional capital expenditure	2037.63	2001.62	1234.86	413.38	40.07
E	Repayment of loan during the year	4547.97	4973.96	1876.40	588.16	224.75
F	Repayment adjustment on account of de-capitalisation	15.28	283.53	315.26	174.78	184.99



		2014-15	2015-16	2016-17	2017-18	2018-19
G	Repayment adjustment on account of discharges/reversals corresponding to undischarged liabilities deducted as on 1.4.2009	1.10	0.00	1.08	0.00	0.31
H	Net Repayment of loan during the year (E-F+G)	4533.79	4690.43	1562.21	413.38	40.07
I	Net Loan Closing (C+D-H)	3016.17	0.00	0.00	0.00	0.00
J	Average Loan [(C+I)/2]	4264.25	1508.09	163.68	0.00	0.00
K	WAROI	6.500%	6.391%	6.533%	6.581%	6.776%
L	Interest on Loan (J x K)	277.20	96.38	10.69	0.00	0.00

Depreciation

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

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

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

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

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

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

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

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



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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

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

(7) The generating company or the transmission 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-capitalisation of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalised asset during its useful services.”

103. Cumulative depreciation amounting to Rs.57727.16 lakh, as on 1.4.2014, as considered in an order dated 26.9.2016 in Petition No. 334/GT/2014, has been retained as on 1.4.2014. Since the elapsed life of the generating station as on 1.4.2014, from the effective station COD of the generating station, is more than 12 years, the depreciable value has been spread over the remaining years for calculation of depreciation. 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	101842.05	104666.23	106847.55	107913.85	108163.23
Free hold land	2327.67	2327.67	2327.67	2327.67	2327.67
Balance useful life at the beginning of the year	7	6	5	4	3
Depreciable value @90%	89562.94	92104.71	94067.89	95027.56	95252.00
Balance depreciable value	31835.78	29843.76	27139.92	22985.79	17638.57
Depreciation during the year	4547.97	4973.96	5427.98	5746.45	5879.52
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment	62275.1	67234.91	72355.95	77788.21	83492.95
Less: Cumulative depreciation adjustment on account of de-capitalisation	15.28	306.94	315.26	174.78	184.99



	2014-15	2015-16	2016-17	2017-18	2018-19
Add: Cumulative Depreciation adjustment on a/c of un-discharged liabilities deducted as on 1.4.2009	1.10	0.00	1.08	0.00	0.31
Cumulative depreciation, at the end of the year	62260.95	66927.97	72041.76	77613.43	83308.27

O&M Expenses

104. The Commission vide its order dated 26.9.2016 in Petitioner No. 334/GT/2014

allowed the following O & M expenses:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	19853.60	21100.20	22429.60	23841.80	25341.40
Water Charges allowed under Regulation 29(2)	660.77	660.77	660.77	660.77	660.77
Capital spares	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses	20514.37	21760.97	23090.37	24502.57	26002.17

105. 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 under Regulation 29(1)(a) of the 2014 Tariff Regulations	19853.60	21100.20	22429.60	23841.80	25341.40
O&M expenses claimed under Regulation 29(2) of the 2014 Tariff Regulations					
- Water Charges	662.55	664.37	662.55	728.81	795.15
- Capital Spares consumed	490.15	480.95	172.67	243.49	247.89
Sub-total O&M expenses	21006.30	22245.52	23264.82	24814.10	26384.44
Additional O&M expenses					
Impact of Wage revision	-	35.95	1840.83	2311.43	2649.18
Impact of GST	-	-	-	178.29	257.47
Ash Transportation Expenses	-	-	28.11	19.86	19.36
Total O&M Expenses	21006.30	22281.47	25133.76	27323.68	29310.45

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

Water Charges

107. 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”.

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

<i>(Rs. in lakh)</i>						
	Units	2014-15	2015-16	2016-17	2017-18	2018-19
Type of cooling tower	-	Induced Draft Cooling Tower (IDCT)				
Type of cooling water system	-	Closed Cycle				
Water allocation/contracted	Cum	14723370	14763708	14723370	14723370	14725024
Actual water consumption	Cum	10613924	10907025	12978921	10700871	11595613
Rate of water charges	Rs /Cum	4.5	4.5	4.5	4.95	5.4
Total water charges paid (for whole generating station)	Rs. in lakh	662.55	664.37	662.55	728.81	795.15

109. The water charges allowed by the Commission in the order dated 26.9.2016 in Petition No. 334/GT/2014 are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
660.77	660.77	660.77	660.77	660.77

110. The Commission, in the said order dated 26.9.2016, directed the Petitioner to submit the details in respect of the water charges, as under:

“55. The Petitioner is directed to furnish the details such as the contracted quantity, allocation of water, the actual water consumed during 2014-19, the basis of calculation of quantity of CW and computation of water charges at the time of truing-up of tariff in terms of the 2014 Tariff Regulations. In addition, the Petitioner shall also confirm / clarify as to whether the water charges have been paid on the basis of contracted quantity or on the basis of allocation.”



111. In response, the Petitioner has furnished the water rate schedule issued by the Office of Engineer-in-Chief (Water Resources), Odisha, Bhubaneswar, dated 29.3.2019 and the details of the water bill dated 4.10.2019 for the month of September 2019 issued by Angul Irrigation Division.

112. We have examined the matter. The Petitioner has submitted that the payment of water charges is as per the quantity of water drawn or allocated, whichever is higher, which is substantiated by the water bill furnished by the Petitioner. Accordingly, the claim of water charges is found to be in order and is allowed accordingly. In view of the above, the water charges allowed are under

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
662.55	664.37	662.55	728.81	795.15

Capital Spares

113. 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”.

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
490.15	480.95	172.67	243.49	247.89

115. Respondent GRIDCO has submitted that R&M has been carried out for the generating station through an investment of Rs.700 crores, with the extension of life



till March 2021, and therefore, no capital spares are allowable till March 2021, as the cost of spares shall be much more than 2.5% of the said R&M expenses. In this regard, it has relied upon the following observations made in the Commission's order dated 31.8.2016 in Petition No. 273/GT/2014 for the period 2009-14:

“Capital Spares

28. *The Petitioner has claimed actual expenditure of Rs. 810.84 lakh towards capitalization of capital spares in 2013-14 and has submitted that the generation station being old is operating under relaxed norms and extended life and no Compensation Allowance and Special Allowance has been provided. It has also submitted that the Commission vide its order dated 3.2.2009 in Petition No. 31/2008 (tariff charges for the period 2004-07) had allowed the capitalization of spares for `6.80 crores against the de-capitalization of Rs.12.97 crores. The Petitioner has further submitted that the balance value of spares worth of Rs. 6.16 crores shall be purchased and capitalised in subsequent years. It has stated that the Commission had further considered the capitalisation of capital spares in 2007-09. The Petitioner has accordingly prayed to consider the capitalisation of capital spares in 2013-14 under Regulation 44, as the total de-capitalization of Rs.1135.19 lakh during the period 2009-14 is also claimed.*

29. *It is observed that the amount of Rs.2795.64 lakh towards capitalization of capital spares during the period from 2009-10 to 2012-13 was not allowed in order dated 15.5.2014 in petition no. 304/2009 with remarks as under:*

“It is observed Commission by its orders had allowed expenditure of Rs.1100 lakh during 1995-2000 and Rs.1919 lakh during 2002-04 on this count. Thus, the total initial spares capitalized after takeover of the generating station is Rs.3019 lakh. The total capitalization of expenditure for R&M including R&M during 2009-14 works out to around Rs.70000 lakh. Therefore, the initial spares capitalized in respect of the generating station works out to more than 2.5% of total R&M expenses. In view of this, the claim for capitalization of capital spares has not been allowed.”

30. *In terms of the above discussions, Since the spares capitalized is more that 2.5% of the total R&M expenditure, the capitalization of spares in 2013-14 is not allowed.”*

116. In response, the Petitioner has clarified that the reliance made by the Respondent GRIDCO to the Order dated 31.8.2016 is incorrect. In the said order, the Commission had disallowed the capitalization of spares since the same were beyond the ceiling of 2.5% of the total R&M expenses. However, it has been submitted that the capital spares claimed are part of the O&M expenditure, consumed during the operation of the plant, and are admissible as per the provision of the 2014 Tariff Regulations, subject to prudence check. It has further submitted that the above principle cannot be applied, since the generating station is neither eligible for Special allowance nor for the Compensation allowance. Accordingly, the Petitioner has prayed



for consideration of the above capital spares as per the details provided in Form-17 as O&M expenses under Regulation 29 (2) of the 2014 Tariff Regulations.

117. We have examined the matter. Capital spares consumption claimed by the Petitioner generally comprises two parts, i.e., capital spares forming part of allowed capital cost and capital spares not forming part of allowed capital cost. We have examined the list of spares (Form-17) furnished by the Petitioner as well as the Form-9Bi which depicts the assets decapitalised during the period. We find that the Petitioner has exactly decapitalised the same amount as those claimed under capital spares consumption. The decapitalization of capital spares claimed by the Petitioner in Form 9B (i) comprises two categories as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Capital spares (forming part of capital cost)	20.37	325.55	121.32	91.02	232.03
Capital spares (not forming part of allowed capital cost claimed as exclusion)	469.77	155.4	51.35	152.47	15.86
Total capital spares Decapitalized	490.15	480.95	172.67	243.49	247.89

118. 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 and the information filed vide affidavit dated 30.5.2024, in compliance with the directions vide ROP of the hearing dated 6.2.2024, has been considered for



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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	490.15	480.95	172.67	243.49	247.89
Total capital spares consumed (not part of capital cost)	469.77	155.40	51.35	152.47	15.86
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	185.46	18.57	2.40	71.05	0.90
Net total value of capital spares considered	284.31	136.83	48.95	81.42	14.96

119. Further, we are of the view that spares do have a salvage value. Accordingly, in line with the practice of considering the salvage value, presumed to be recovered by the Petitioner on the sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above, for the period 2014-19. In view of the above, the salvage value of 10% has been deducted from the net total value of capital spares considered during the period 2014-19. Accordingly, the net capital spares allowed are summarized as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered (A)	284.31	136.83	48.95	81.42	14.96
Salvage value @ 10% (B)	28.43	13.68	4.90	8.14	1.50
Net Claim allowed (C) = (A)-(B)	255.88	123.15	44.06	73.28	13.46

Additional O&M expenses on account of GST

120. The Petitioner has claimed additional O&M expenses of Rs.178.29 lakh in 2017-18 and Rs. 257.47 lakh in 2018-19 on account of payment of GST. It has submitted that the GST Act was enacted by the Parliament of India which came into force w.e.f. 1.7.2017. With the enactment, many taxes/ cess/ duties, such as Central Exercise Duty, Service Tax, Value Added Tax, Sales Tax, etc., got subsumed in the



GST with a change in the rate of tax to be paid to the vendors for various activities carried out for generation of electricity by the Petitioner. This change in tax regime had positive as well as negative impacts, i.e., taxes to be paid on certain services/ goods increased, whereas on certain services/ goods decreased. However, the overall impact due to the change in tax regime was that the net taxes paid by the Petitioner increased for carrying out O&M activities such as sourcing goods/ material from vendors/ OEMs, etc. have increased. The Petitioner has further submitted that the O&M norms allowed to the Petitioner as per the 2014 Tariff Regulations, were based on the actuals for the period (2008-13), wherein the total taxes, duties, etc., paid by the Petitioner were less when compared with GST. The Petitioner has stated that it is incurring an increased expenditure due to increased taxes w.e.f. 1.7.2017 for the O&M activities. The Petitioner submitted that the Commission, in its various orders, has declared the promulgation of GST w.e.f. 1.7.2017 is a change in law event. Accordingly, the Petitioner has submitted that the impact of the increase in the rate of indirect tax from 15% to 18% has been calculated on all taxable services and is claimed for the period from 1.7.2017 to 31.3.2019 including the impact on the actual O&M incurred during the said period.

121. Respondent GRIDCO has submitted that the Petitioner has claimed 'GST' under a change in law on the ground that the impact of the increase in the same is due to an increase in the rate of indirect tax from 15% to 18% on all taxable services. However, it has been pointed out that the Petitioner has not submitted the documents in support of the said claim. Accordingly, the Respondent has submitted that the Petitioner may be directed to furnish the details of such taxable services with the corresponding GST, failing which the above claim may be disallowed. In response, the



Petitioner has submitted that it has given the entire breakup of its claim for GST in the additional affidavit filed on 30.6.2021.

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

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

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

Impact of Wage Revision

124. The Petitioner has submitted that the Commission, while specifying the 2014 Tariff Regulations applicable for the period 2014-19, had taken note in the SOR to the said regulations that any increase in the employee expenses, on account of pay revision, shall be considered appropriately, on a case-to-case basis, balancing the interest of generating stations and consumers. The Petitioner has, therefore, claimed additional O&M expenses of Rs. 35.95 lakh in 2015-16, Rs.1840.83 lakh in 2016-17, Rs.2311.43 lakh in 2017-18, and Rs.2649.18 lakh in 2018-19, towards the impact of wage revision of employees of CISF from 1.1.2016 and the employees of the Petitioner



posted in the generating station with effect from 1.1.2017. In this regard, the Petitioner, vide affidavit dated 30.6.2021, has submitted the following:

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

125. We have examined the submissions and the documents available on record. As stated, the Petitioner has claimed the total amount of Rs.6837.39 lakh (Rs. 35.95 lakh in 2015-16, Rs.1840.83 lakh in 2016-17, Rs.2311.43 lakh in 2017-18, and Rs.2649.18 lakh in 2018-19) as the impact of wage revision of employees of CISF from 1.1.2016 and for employees of the Petitioner posted at the generating station with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional PRP/ex-gratia to its employees, consequent upon wage revision, of Rs.162.30 lakh in 2017-18 and Rs.635.60 lakh in 2018-19. As such, as per the consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for finalization of O&M norms for various tariff settings, the additional PRP/ex-gratia, paid as a result of wage revision impact has been excluded from the wage revision impact claimed by the Petitioner. Accordingly, the claim of the Petitioner in respect of wage revision impact stands reduced to Rs.6039.48 lakh with the following year-wise break up.

	<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	0.00	35.95	1840.83	2149.13	2013.57	6039.48

126. The Commission, while specifying the O&M expense norms under the 2014 Tariff Regulations, had considered the actual O&M expense data for the period from



2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission, in the SOR to the 2014 Tariff Regulations, had observed that the increase in employees' cost due to the impact of pay revision would be examined on a case-to-case basis, balancing the interest of generating stations and the consumers.

The relevant extract of the SOR is extracted under:

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

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

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

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



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

129. The Petitioner has furnished a detailed breakup of the actual O&M expenses incurred during the period 2014-19. It is noticed that the total O&M expenses incurred for the generating station are more than the normative O&M expenses recovered during each year of the period 2014-19. The impact of wage revision/ pay revision could not be factored by the Commission while framing the O&M expense norms under the 2014-19 Tariff Regulations since the pay/ wage revision came into effect from 1.1.2016 (CISF & KV employees) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of SOR to the 2014 Tariff Regulations, the following approach has been adopted for arriving at the allowable impact of pay revision:

- (a) Comparison of the normative O&M expenses with the actual O&M expenses incurred for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fee, ex-gratia, loss of provisions, prior period expenses, community development store expenses, ash utilization expenses, RLDC fee & charges and others (without breakup/details) which were not considered while framing the O&M expense norms for the period 2014-19, have been excluded from the yearly actual O&M expenses. Having done so, if the normative O&M expenses for the period 2015-19 are higher than the actual O&M expenses (normalized) for the said period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the said period is not admissible/allowed as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are lesser than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and Ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.



130. The details as furnished by the Petitioner for the actual O&M expenses incurred for the period from 1.4.2014 to 30.10.2015 and the wage revision impact (excluding PRP and ex-gratia) for the period from 31.10.2015 to 31.3.2019 for the generating station are as under:

(Rs. in lakh)

Year	Actual O&M expenses, excluding water charges & capital spares	Wage revision impact claimed for the generating station
2014-15	24969.29	0.00
2015-16	31146.57	35.95
2016-17	26106.28	1,840.83
2017-18	25745.76	2,311.43
2018-19	35281.15	2,649.18
Total		6837.38

131. As a first step, the expenditure against sub-heads of O&M expenses, as indicated in the paragraph above, have been excluded from the actual O&M expenses incurred to arrive at the actual O&M expenses (normalized) for the generating station. Accordingly, the comparison of the normative O&M expenses versus the actual O&M expenses (normalized) along with the wage revision impact claimed by the Petitioner for the generating station, i.e., Talcher (460 MW) for the period 2015-19, is as follows:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total
Actual O&M expenses (normalized) for the generating station – (a)	27507.72	23044.97	22960.72	30140.40	103653.81
Normative O&M expenses as per Regulation 29(1) of the 2014 Tariff Regulations – (b)	21100.20	22429.60	23841.80	25341.40	92713.00
Under/(Excess) recovery for the generating station (c)=(a)-(b)	6407.52	626.19	(-) 870.26	4799.00	10940.81
Wage revision impact claimed (excluding PRP/ex-gratia)	35.95	1840.83	2149.13	2013.57	6039.48

132. It is observed that for the period 2015-19, the normative O&M expenses are less than the actual O&M expenses (normalized), and the under-recovery is to the tune of Rs.10962.45 lakh, which exceeds the wage revision impact claimed (excluding PRP/ex-gratia) by the Petitioner. As such, in terms of the methodology described above, the wage revision impact (excluding PRP/ex-gratia) of Rs. **6039.48 lakh** is



allowed to the generating station. Accordingly, we, in exercise of the Power to relax under Regulation 54 of the 2014 Tariff Regulations, relax Regulation 29(1) of the 2014 Tariff Regulations and allow the reimbursement of the wage revision impact for this generating station as additional O&M charges for the period 2015-19, for Rs. 6039.48 lakh. The arrear payments on account of the wage revision impact are payable by the beneficiaries in twelve equal monthly instalments from the date of issue of this order. Keeping in view the consumer interest, we, as a special case, direct that no interest shall be charged by the Petitioner on the arrear payments on the wage revision impact allowed in this order. This arrangement, in our view, will balance the interest of both, the Petitioner and the Respondents. Also, considering the fact that the impact of wage revision is being allowed in the exercise of the power to relax, these expenses are not made part of the O&M expenses and consequent annual fixed charges being determined in this order under the 2014 Tariff Regulations.

Fly Ash transportation charges

133. The Petitioner has claimed the additional O&M expenses of Rs. 28.11 lakh in 2016-17, Rs.19.86 lakh in 2017-18, and Rs.19.36 lakh in 2018-19 on account of Fly Ash transportation charges. The Petitioner submitted that a notification dated 25.1.2016 was issued by the Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) under the statutory provisions of the Environment (Protection) Act 1986, which prescribed for bearing the transportation cost of Fly Ash generated at power stations. The Petitioner has also submitted that Petition No. 172/MP/2016 was filed by it before the Commission, seeking the reimbursement of the additional expenditure for fly ash transportation directly from the beneficiaries as the same was a statutory expense. Subsequently, the Petitioner vide additional



submissions dated 15.6.2022 has submitted that the Commission vide order dated 5.11.2018 in Petition No. 172/MP/2016 disposed of the same as under:

“31. Accordingly, we in exercise of the regulatory power hold that the actual additional expenditure incurred by the Petitioner towards transportation of ash in terms of the MOEFCC Notification is admissible under “Change in Law” as additional O&M expenses. However, the admissibility of the claims is subject to prudence check of the following conditions on case to case basis for each station: a) Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash.

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

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

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

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

134. Accordingly, the Petitioners have sought the reimbursement of the additional expenditure towards fly ash transportation w.e.f. 25.1.2016 onwards, as under:

	<i>(Rs. in lakh)</i>			
	2016-17	2017-18	2018-19	Total
Expenditure incurred towards fly ash transportation (a)	28.11	19.86	19.36	67.33
Revenue earned from the sale of Fly Ash (b)	-	-	-	
Net Additional O&M expenses claimed (b-a)	28.11	19.86	19.36	67.33

135. The Petitioner has further submitted that the fly ash from the generating station was transported to the ash brick manufacturers, etc., located in the vicinity of the plant. However, for the quantum of ash transported to the ash brick manufacturers, the rate for transportation of fly ash has been considered as per the Govt. of Odisha SPCB notification dated 4.7.2015, with a view of analysing whether the rate’s reasonableness with prevailing Schedule of Rates (SoR) of Odisha. The details in this regard like for respective periods as submitted by the Petitioner, are as under.



Sl No.	Period	Distance from NTPC (Km.)	Quantity of Ash (MT)	SOR (Rs/MT)	Rate (Rs/MT) Paid	Amount (Rs in Lakh)
1	2016-2017	42 KM (Avg.)	12906	497	150	19.36
2	2017-2018	61 KM (Avg.)	13240	614	150	19.86
3	2018-2019	57 KM (Avg.)	18740	589	150	28.11
	Total					67.33

136. The details in regard to the Ash generated and transported in the generating station during the following periods, as submitted by the Petitioner, is tabulated below:

Year	Ash Generated (MT)	Ash Transported (Brick Plants) (MT)
2016-2017	1174978	12906
2017-2018	1229224	13240
2018-2019	1129069	18740

137. The Respondent, GRIDCO, has submitted that the Petitioner has not submitted the required details/information, as directed by the Commission, and, hence, the claim is liable to be rejected.

138. We have considered the submissions. It is observed that the Petitioner has furnished the auditor certificate for Rs. 67.33 lakh in respect of the amount incurred under this head. Also, the ash transportation charges claimed are in terms of the Schedule of Rates (SoR) of the SPCB, Odisha, and, therefore, found to be in order. In view of this, we allow the ash transportation charges incurred by the Petitioner, with directions to recover the same from the Respondent in 6 (six) equal monthly instalments.

139. Accordingly, the total O&M expenses allowed to the generating station for the period 2014-19 are as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Normative O&M expenses claimed under Regulation 29(1)(a) of	19853.60	21100.20	22429.60	23841.80	25341.40



	2014-15	2015-16	2016-17	2017-18	2018-19
the 2014 Tariff Regulations (a)					
Normative O&M expenses allowed under Regulation 29(1)(a) of the 2014 Tariff Regulations (b)	19853.60	21100.20	22429.60	23841.80	25341.40
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations (c)	662.55	664.37	662.55	728.81	795.15
Water Charges allowed under Regulation 29(2) of the 2014 Tariff Regulations (d)	662.55	664.37	662.55	728.81	795.15
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations (e)	490.15	480.95	172.67	243.49	247.89
Capital Spares consumed allowed under Regulation 29(2) of the 2014 Tariff Regulations (f)	255.88	123.15	44.06	73.28	13.46
Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e)	21006.30	22245.52	23264.82	24814.10	26384.44
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f)	20772.03	21887.72	23136.21	24643.89	26150.01
Impact of Wage revision claimed	0.00	35.95	1840.83	2311.43	2649.18
Impact of Wage revision allowed	0.00	35.95	1840.83	2149.13	2013.57
Impact of GST claimed	0.00	0.00	0.00	178.29	257.47
Impact of GST allowed	0.00	0.00	0.00	0.00	0.00
Ash Transportation Expenditure claimed	0.00	0.00	28.11	19.86	19.36
Ash Transportation Expenditure allowed	0.00	0.00	28.11	19.86	19.36
Total claimed	21006.30	22281.47	25133.76	27323.68	29310.45
Total allowed	20772.03	21923.66	25005.15	26812.87	28182.94



Operational Norms

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

(a) Normative Annual Plant Availability Factor (NAPAF)

141. In terms of Regulation 36(A)(a) of the 2014 Tariff Regulations, the NAPAF of 85% for the period 2014-19 is allowed.

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

142. In terms of Regulation 36(C)(a) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2850 kCal/kWh is allowed.

(c) Specific Oil Consumption

143. In terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the secondary fuel oil consumption of 0.50 ml/kWh is allowed.

(d) Auxiliary Power Consumption

144. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 10.50% is allowed.

Interest on Working Capital

145. 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.

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

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

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

Fuel Cost and Energy Charges in Working Capital

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

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

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

(a) For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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



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

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

LC = Normative limestone consumption in kg per kWh.

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

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

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

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

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

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

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

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

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

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



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

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

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

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

150. In Petition No. 334/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the period 2014-19, the Petitioner had furnished GCV of coal on ‘as billed’ but not ‘as received’ basis for the preceding 3 months, i.e., for January 2014, February 2014 and March 2014 that were required for determination of Interest on Working Capital (IWC). Therefore, the Commission, vide its order dated 26.9.2016 in Petition No.334/GT/2014, had considered GCV of coal on an ‘as billed’ basis and provisionally allowed adjustment for total moisture while allowing the cost of



coal towards generation & stock and two months energy charges in the working capital.

151. As per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014, the Petitioner, in Form-13F, has considered the average GCV of coal on an "as received basis," i.e., from wagon top for the period from October 2016 to March 2019 for the purpose of computation of working capital for the 2014-19 tariff period. The Petitioner has further submitted that CEA vide letter dated 17.10.2017 has opined that a margin of 85-100 kCal/kg for the pit-head station and a margin of 105-120 kCal/kg for the non-pit head station is required to be considered as loss of GCV of coal on "as received" and on "as fired" basis respectively. Accordingly, the Petitioner has considered a margin of 100 kCal/kg on average GCV of coal for the period from October 2016 to March 2019 for the computation of the working capital of the generating station. Accordingly, the cost of fuel component in the working capital of the generating station based on (i) 'as received' GCV of coal for 30 months from October 2016 to March 2019 with adjustment of 100 kCal/kg towards storage loss, (ii) landed price of coal for preceding three months, i.e., January 2014 to March 2014 and (iii) GCV and landed price of Secondary fuel oil procured for the preceding three months, i.e., January 2014 to March 2014 for the generating station, has been claimed by the Petitioner in the working capital as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days)	1374.15	1374.15	1374.15	1374.15	1374.15
Cost of Coal towards Generation (30 days)	2748.30	2748.30	2748.30	2748.30	2748.30
Cost of Secondary fuel oil (2 months)	149.06	149.47	149.06	149.06	149.06

152. The Petitioner has claimed the Energy Charge Rate (ECR) ex-bus of 111.994 paise/kWh for the generating station based on GCV and price of fuel (coal and secondary fuel oil) as indicated above. The Petitioner, suo-moto has submitted the



additional details on the GCV on an 'as received' basis, which was sought by the Commission in other similar matters for the months of January 2014 to March 2014, which was uploaded on the website of the Petitioner and shared with the beneficiaries. The Petitioner vide its affidavit dated 30.6.2021, has submitted that though the computation of energy charges moved from 'as fired' basis to 'as received' basis with effect from 1.4.2014 in terms of Regulation 30(6) of the 2014 Tariff Regulations, for calculation of IWC under Regulation 28(2) of the 2014 Tariff Regulations, the GCV should be as per 'actuals' for the three months preceding the first month for which tariff is to be determined. It has further submitted that for the 2014-19 tariff period, Regulation 28(2) of the 2014 Tariff Regulations unequivocally provides that the actual cost and GCV of the preceding three months shall be considered and for these preceding three months (January 2014 to March 2014) by virtue of it falling under the 2009 Tariff Regulations shall be computed on the basis of 'as fired' GCV. Referring to the judgment of the Hon'ble Supreme Court in PTC India v CERC (2010) 4 SCC 603 and the judgment of APTEL in NEEPCO v TERC (2006) APTEL 148, the Petitioner has submitted that the Commission is bound by the provisions of the Tariff Regulations and that purposive interpretation ought to be given to the 2014 Tariff Regulations and interest on working capital ought to be computed in terms of Regulation 28(2) of the 2014 Tariff Regulations on actual GCV i.e. 'as fired' GCV. The Petitioner has submitted that without prejudice to the above submissions, it has furnished the details of GCV on an 'as received' basis for the months of January 2014 to March 2014 in compliance with the directions of the Commission in other similar matters as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) (A)	Total Moisture TM) (in %) (B)	Equilibrated Moisture (EM) (in %) (C)	Weighted Average GCV of coal received (TM basis) (kcal/kg) D=A*(1-B%)/(1-C%)
1	January 2014	3792	12.08	6.25	3556
2	February 2014	3793	12.09	6.24	3556



3	March 2014	3797	11.45	6.23	3586
	Average				3566.05

153. The submissions have been considered. As stated above, the Petitioner, in Form-13F, has considered the average GCV of coal on an “as received basis,” i.e., from wagon top for the period from October 2016 to March 2019, for the purpose of computation of working capital for the period 2014-19. In addition to the average GCV, it has also considered a margin of 100 kCal/kg for the computation of the working capital of the generating station. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of the cost of fuel as a part of IWC is to be based on the landed price and gross calorific value of the fuel, as per actuals, for the three months preceding the first month for which the tariff is to be determined. Thus, the calculation of IWC for the period 2014-19 is to be based on such values for the months of January 2014, February 2014, and March 2014. The Petitioner has not been able to furnish these values at the time of determination of tariff for the period 2014-19 in Petition No. 334/GT/2014. In the present petition, the Petitioner has proposed that instead of GCV for January 2014, February 2014, and March 2014, the Commission should consider the average values for the months of October 2016 to March 2019 since the measurement of ‘as received’ GCV has been done in accordance with directions of the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014. In our view, the proposal of the Petitioner to consider the retrospective application of 30 months (October 2016 to March 2019) an average of ‘as received’ GCV data in place of ‘as received’ GCV of the preceding three months (January 2014 to March 2014) is not acceptable, keeping in view that the average GCV for 30 months may not be commensurate to the landed cost of coal for the preceding three months to be considered for calculating IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations and that due to efflux of time (gap of 30 months), the quality of the coal



extracted from the linked mines would have undergone considerable changes. Also, the consideration of loss of GCV of 100 kCal/kg cannot be considered, as the same is not as per provisions of the 2014 Tariff Regulations.

154. It is observed that though the Petitioner has furnished the details of 'as received' GCV for the three months of January 2014 to March 2014, as in the table under paragraph 107 above, it has submitted that GCV of fuel is to be considered 'on actuals' for January 2014 to March 2014 and as such, GCV is required to be considered on an 'as fired' basis. In other words, the Petitioner has contended that since the period of January 2014 to March 2014 falls in the 2009-14 tariff period for measurement of GCV of coal, Regulation 18(2) read with Regulation 21(6) of the 2009 Tariff Regulations was applicable which mandates that generating company shall measure GCV on 'as fired' basis (and not on 'as received' basis). This submission of the Petitioner is also not acceptable in view of provisions of Regulation 21(6) of the 2009 Tariff Regulations that was amended on 31.12.2012 by the addition of the following provisos:

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

Provided that generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal imported coal e-auction coal lignite natural gas RLNG liquid fuel etc. as per the form 15 of the Part-I of Appendix I to these regulations:

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

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

155. Thus, in terms of the above amendment to the 2009 Tariff Regulations, the details regarding the weighted average GCV of the fuels on an 'as received' basis were also required to be provided by the Petitioner along with bills of the respective



month. Also, bills detailing the parameters of GCV and the price of fuel were to be displayed by the Petitioner on its website on a monthly basis.

156. As per SOR to the 2014 Tariff Regulations, we note that the main consideration of the Commission while moving from 'as fired' GCV to an 'as received' GCV for the purpose of energy charges under Regulation 30(6) of the 2014 Tariff Regulations for the period 2014-19 was to ensure that GCV losses which might occur within the generating station after receipt of coal are not passed on to the beneficiaries on account of improper handling and storage of coal by the generating companies. As regards the allowable (normative) storage loss within the generating station, CEA had observed that there is a negligible difference between 'as received' GCV and 'as fired' GCV. As such, for the purpose of calculating energy charges, the Commission moved from 'as fired' GCV to 'as received' GCV under Regulation 30(6) of the 2014 Tariff Regulations without allowing any margin between the two measurements of GCV. Thus, 'as received' GCV was made applicable for the purpose of calculating working capital requirements based on the actual GCV of coal for the preceding three months of the first month for which tariff is to be determined in terms of Regulation 28(2) of 2014 Tariff Regulations. In case the submission of the Petitioner that 'as fired' is to be considered 'at actuals' for the preceding three months for the purpose of IWC, the same would mean allowing (and passing through) all storage losses that would have occurred during the preceding three months (January 2014 to March 2014) for the 2014-19 tariff period. This, according to us, defeats the very purpose of moving from 'as fired' GCV to 'as received' GCV in the 2014 Tariff Regulations. In this background and keeping in view that in terms of amended Regulation 21(6) of the 2009 Tariff Regulations, the Petitioner is required to share details of the weighted average GCV of the fuel on an 'as received' basis, we consider the fuel component and energy



charges for two months based on 'as received' GCV of the preceding three months (January 2014 to March 2014) for the purpose of computation of IWC in terms of Regulation 28(2) of the 2014 Tariff Regulations.

157. The Petitioner has calculated a GCV of 3566.05 kCal/kg, which represents a simple average of GCVs for the preceding three months. However, the weighted average GCV for the preceding three months works out to 3567.07 kCal/kg based on the coal quantities received at the station as submitted by the Petitioner vide affidavit dated 12.7.2024 in response to the Commission's ROP for the hearing dated 27.6.2024 and the monthly GCVs as submitted by the Petitioner (refer table in paragraph 152 above). Further, based on the details of the coal quantities received at the station (after removing opening coal stock as submitted in Form 15, the corresponding amount paid to the coal companies and normative transit and handling losses of 0.2% applicable for pit head stations, the weighted average price of the coal works out to Rs.1075.76/MT in place of Rs.1166.20/MT as claimed by the Petitioner at Form-15.

158. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition, except for the 'as received' GCV of coal, which is considered as 3567.07 kCal/kg and price of coal which has been considered as Rs.1075.76/MT as discussed above. All other operational norms such as Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Cost, have been considered as per the 2014 Tariff Regulations for the calculation of fuel components in working capital.

159. Based on the above discussion, the cost for the fuel component in working capital is worked out and allowed as under:



(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days) generation corresponding to NAPAF	1207.78	1207.78	1207.78	1207.78	1207.78
Cost of Coal towards Generation (30 days) generation corresponding to NAPAF	2415.56	2415.56	2415.56	2415.56	2415.56
Cost of Secondary fuel oil 2 months generation corresponding to NAPAF	149.06	149.47	149.06	149.06	149.06

Energy Charge Rate (ECR) for calculating working capital

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

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

(b) For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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

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

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

LC = Normative limestone consumption in kg per kWh.

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

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

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

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

161. The Petitioner has claimed an Energy Charge Rate (ECR) of 111.994 Paise/kWh for the generating station. However, the allowable ECR, based on the operational norms as specified in Regulation 36(A) of the 2014 Tariff Regulations, the



weighted average 'as received' GCV of 3567.70 kCal/kg, and the weighted average price of coal of Rs.1075.76/MT is worked out as under:

	Unit	2014-19
Capacity	MW	460
Gross Station Heat Rate	kCal/kWh	2850
Aux. Energy Consumption	%	10.50%
Weighted average GCV of Oil	kCal/lit	9730.71
Weighted average GCV of Coal	Kcal/kg	3567.07
Weighted average price of Oil	Rs./KL	52221.86
Weighted average price of Coal	Rs./MT	1075.76
Rate of Energy Charge ex-bus allowed	Rs./kWh	0.988

162. The Energy Charges for two months for computation of working capital based on ECR of Rs.0.988/kWh has been worked out as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
5047.89	5061.72	5047.89	5047.89	5047.89

163. Accordingly, the fuel component and energy charges for two months in working capital is allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal towards stock (15 days) generation corresponding to NAPAF	1207.78	1207.78	1207.78	1207.78	1207.78
Cost of Coal towards Generation (30 days) generation corresponding to NAPAF	2415.56	2415.56	2415.56	2415.56	2415.56
Cost of Secondary fuel oil for 2 months corresponding to generation at NAPAF	149.06	149.47	149.06	149.06	149.06
Energy Charges for 2 months	5047.89	5061.72	5047.89	5047.89	5047.89

Working Capital for Maintenance Spares

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

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4201.26	4456.29	5026.75	5464.74	5862.09

165. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provides for maintenance spares @ 20% of the O&M expenses as specified in Regulation 29 of the 2014 Tariff



Regulations. Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and capital spares) allowed for the period 2014-19 are as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4154.41	4377.54	4627.24	4928.78	5230.00

Working Capital for Receivables

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

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months (A)	5047.89	5061.72	5047.89	5047.89	5047.89
Fixed Charges - for two months (B)	6189.21	6469.20	7084.14	7462.81	7733.85
Total (C = A+B)	11237.10	11530.92	12132.03	12510.70	12781.74

Working Capital for O&M Expenses (1 month)

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

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1750.52	1856.79	2094.48	2276.97	2442.54

168. For consideration of working capital, O&M expenses of 1 month are to be considered. The normative O&M expenses allowed as per Regulation 29(1) of the 2014 Tariff Regulations, water charges, and capital spares allowed as per Regulation 29(2) of the 2014 Tariff Regulations have been considered for calculating O&M expenses for 1 month as a part of working capital. Accordingly, in terms of Regulation 28(1)(a)(vi) of the 2014 Tariff Regulations, one month's O&M expenses allowed is as under:



<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1731.00	1823.98	1928.02	2053.66	2179.17

Rate of interest on working capital

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

170. Accordingly, interest on working capital has been computed as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Cost of Coal towards Stock (15 days generation corresponding to NAPAF) (A)	1207.78	1207.78	1207.78	1207.78	1207.78
Working capital for Cost of Coal towards Generation (30 days generation corresponding to NAPAF) (B)	2415.56	2415.56	2415.56	2415.56	2415.56
Working capital for Cost of Secondary fuel oil (2 months generation corresponding to NAPAF) (C)	149.06	149.47	149.06	149.06	149.06
Working capital for Maintenance Spares (20% of O&M expenses) (D)	4154.41	4377.54	4627.24	4928.78	5230.00
Working capital for Receivables (2 months of sale of electricity at NAPAF) (E)	11237.10	11530.92	12132.03	12510.70	12781.74
Working capital for O&M expenses (1 month of O&M expenses) (F)	1731.00	1823.98	1928.02	2053.66	2179.17
Total Working Capital (G = A+B+C+D+E+F)	20894.89	21505.24	22459.68	23265.52	23963.30
Rate of Interest (H)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital (I = G x H)	2820.81	2903.21	3032.06	3140.85	3235.05

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

Annual Fixed Charges

172. Accordingly, the annual fixed charges approved for the period 2014-19 for the generating station are summarised below:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4547.97	4973.96	5427.98	5746.45	5879.52
Interest on Loan	277.20	96.38	10.69	0.00	0.00
Return on Equity	8717.25	8918.02	9028.97	9076.69	9105.58



	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	2820.81	2903.21	3032.06	3140.85	3235.05
O&M Expenses	20772.03	21887.72	23136.21	24643.89	26150.01
Total	37135.25	38779.28	40635.91	42607.87	44370.16

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

Summary

173. The total expenses allowed in respect of the generating station for the period 2014-19, after truing-up is summarized below:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges	37135.25	38779.28	40635.91	42607.87	44370.16
Impact of Pay revision (as allowed in Para 132 above)	0.00	35.95	1840.83	2149.13	2013.57
Ash Transportation expenditure (as allowed in Para 138 above)	0.00	0.00	28.11	19.86	19.36
5 km scheme (as allowed in Para 54 above)	0.00	55.99	0.00	0.00	0.00

174. The difference between the annual fixed charges already recovered in terms of the Commission's order dated 26.9.2016 in Petition No. 334/GT/2014 and the annual fixed charges determined by this order shall be adjusted in terms of Regulation 8 of the 2014 Tariff Regulations.

175. Petition No. 256/GT/2020 is disposed of in terms of the above.

Sd/-
(Harish Dudani)
Member

Sd/-
(Ramesh Babu V.)
Member

Sd/-
(Jishnu Barua)
Chairperson

