

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 289/GT/2014**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson**

**Shri A.K. Singhal, Member**

**Shri A.S. Bakshi, Member**

**Dr. M.K. Iyer, Member**

**Date of Order: 31.3.2017**

**In the matter of**

Approval of tariff of Feroze Gandhi Unchahar Thermal Power Station, Stage- II (420 MW) for the period from 1.4.2014 to 31.3.2019

**And**

**In the matter of**

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

**.....Petitioner**

**Vs**

1. Uttar Pradesh Power Corporation Ltd.  
Shakti Bhawan, 14, Ashok Marg  
Lucknow- 226001
2. Jaipur Vidyut Vitran Nigam Limited,  
Vidyut Bhawan, Janpath,  
Jaipur- 302005
3. Ajmer Vidyut Vitran Nigam Limited,  
Old Power House, HathiBhata,  
Jaipur Road, Ajmer
4. Jodhpur Vidyut Vitran Nigam Limited,  
New Power House, Industrial Area,  
Jodhpur
5. Tata Power Delhi Distribution Limited,  
Grid sub-station, Hudson Road,  
Kingsway Camp, Delhi-110009
6. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi -110019.
7. BSES Yamuna Power Limited,  
Shakti Kiran Building,  
Karkardooma, Delhi-110092
8. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector -VI,  
Panchkula, Haryana-134109
9. Punjab State Power Corporation Limited,  
The Mall, Patiala-147001



10. Himachal Pradesh State Electricity Board Limited,  
Kumar Housing Complex Building-II,  
Vidyut Bhawan, Shimla-171004

11. Power Development Department,  
Govt of J & K, Civil Secretariat,  
Srinagar

12. Electricity Department, Chandigarh,  
Union Territory of Chandigarh,  
Addl. Office Building, Sector 9 D,  
Chandigarh

13. Uttarakhand Power Corporation Limited,  
Urja Bhavan, Kanwali Road,  
Dehradun-248001

.....Respondents

**Parties present:**

Shri Ajay Dua, NTPC  
Shri Bhupinder Kumar, NTPC  
Shri Rajeev Choudhary, NTPC  
Shri Sameer Aggarwal, NTPC  
Shri Nishant Gupta, NTPC  
Shri T. Vinodh Kumar, NTPC  
Shri R.B.Sharma, Advocate, BRPL  
Ms. Megha Bajpeyi, BRPL  
Shri Sameer Singh, BYPL  
Shri Nishant Grover, BYPL  
Shri Abhishek Shrivastava, BYPL  
Shri Manish Garg, UPPCL

**ORDER**

This petition has been filed by the petitioner, NTPC for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station, Stage- II (420 MW) (“the generating station) for the period from 1.4.2014 to 31.3.2019 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ( “the 2014 Tariff Regulations”).

2. The generating station with a capacity of 420 MW comprises of two units of 210 MW each. The dates of commercial operation of the different units of the generating station are as under:

Unit-I	1.1.2001
Unit-II	1.3.2000

3. The Commission vide order dated 29.5.2012 in Petition No. 221/2009 had determined the tariff of the generating station for the period from 1.4.2009 to 31.3.2014. Thereafter, the



petitioner had filed Petition No. 222/GT/2013 and Petition No. 332/GT/2014 for revision of tariff of generating station in terms of Regulation 6(1) of the 2009 Tariff Regulations for the period from 2009-14 after truing-up exercise based on actual additional capital expenditure incurred for the period 2009-14. The Commission vide order dated 26.5.2016 in Petition No. 332/GT/2014 revised the tariff of the generating station after truing-up of actual additional capital expenditure incurred for period 2009-10 to 2013-14 considering the opening capital cost of ₹129840.97 lakh as on 1.4.2009 and closing capital cost of ₹130426.02 lakh as on 31.3.2014. Accordingly, closing capital cost and the annual fixed charges for the generating station for the period 2009-14 determined by Commission vide order dated 25.6.2016 in Petition No. 332/GT/2014 is as under:

#### Annual Fixed Charges

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6975.14	6973.13	6969.17	6965.82	3402.99
Interest on Loan	616.17	355.21	190.89	71.61	13.96
Return on Equity	9152.08	9051.44	8946.44	8969.84	9195.98
Interest on Working Capital	2915.49	2933.15	2959.96	2979.69	2938.02
O&M Expenses	7644.00	8080.80	8542.80	9034.20	9550.80
Cost of secondary fuel oil	646.44	646.44	648.21	646.44	646.44
Compensation Allowance	0.00	31.50	63.00	63.00	63.00
<b>Total</b>	<b>27949.33</b>	<b>28071.67</b>	<b>28320.47</b>	<b>28730.61</b>	<b>25811.18</b>

#### Capital Cost

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	129840.97	130002.72	129983.98	129966.09	130663.81
Additional Capital Expenditure Allowed	161.75	18.75	17.88	697.72	237.79
<b>Closing Capital cost</b>	<b>130002.72</b>	<b>129983.98</b>	<b>129966.09</b>	<b>130663.81</b>	<b>130426.02</b>

4. The petitioner has sought approval of tariff of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges claimed by the petitioner are as under:

#### Annual Fixed Charges:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3498.69	3609.41	3715.51	3751.61	3760.52
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	8066.96	8144.65	8211.89	8232.31	8236.74
Interest on Working Capital	4637.38	4691.64	4727.72	4773.99	4822.19
O&M Expenses	10172.53	10811.07	11492.16	12215.82	12986.30
Compensation Allowance	84.00	147.00	210.00	210.00	210.00
<b>Total</b>	<b>26459.56</b>	<b>27403.77</b>	<b>28357.28</b>	<b>29183.74</b>	<b>30015.74</b>



**Capital Cost:***(₹ in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	131519.89	132384.68	134061.23	134584.38	134729.38
Add: Additional capital expenditure	864.79	1676.55	523.15	145.00	0.00
<b>Closing Capital Cost</b>	<b>132384.68</b>	<b>134061.23</b>	<b>134584.38</b>	<b>134729.38</b>	<b>134729.38</b>

5. In compliance with the directions of the Commission, the petitioner has filed additional information and has served the copies of the same on the respondents. The respondents, UPPCL, BRPL and BYPL have filed their replies and the petitioner has filed its rejoinder to the said replies. We now proceed to examine the claim of the petitioner, on prudence check, based on the submissions of the parties and the documents available on record, as stated in the subsequent paragraphs.

**Capital Cost as on 1.4.2014**

6. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides as under:

*“Capital Cost:(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”*

7. Regulation 9(3) of the 2014 Tariff Regulations provides for capital cost of an existing project as under:

*“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 tried up by excluding liability, if any, as on 1.4.2014;*

*(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and*

*(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”*

8. Regulation 9 (6) of the 2014 Tariff Regulations provides that:

*“The following shall be excluded or removed from the capital cost of the existing and new project:*

*(a) The assets forming part of the project, but not in use;*

*(b) De-capitalisation of Asset;*

*(c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the state government by following a two stage transparent process of bidding; and*

*(d) The proportionate cost of land which is being used for generating power from generating station based on renewable energy:*



"Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;"

9. The annual fixed charges claimed in the petition are based on opening capital cost of ₹131519.89 lakh as on 1.4.2014. The admitted capital cost as on 31.3.2014 vide order dated 25.05.2016 in Petition 332/GT/2014 is ₹130426.02 lakh. The closing capital cost has been revised and the same has been considered as on 1.4.2014 of ₹130591.02 lakh. Accordingly, the capital cost considered for the purpose of determination of tariff is as under:

(₹ in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	130591.02	130522.46	132043.21	132241.36	132386.36
Add: Additional capital expenditure	68.56	1520.75	198.15	145.00	0.00
<b>Closing Capital Cost</b>	<b>130522.46</b>	<b>132043.21</b>	<b>132241.36</b>	<b>132386.36</b>	<b>132386.36</b>
Average Capital Cost	130556.74	131282.84	132142.29	132313.86	132386.36

### Additional Capital Expenditure

10. Clause 3 of Regulation 14 of 2014 Tariff Regulations provides as under:

*"14. Additional Capitalization and De-capitalization: (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 50 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 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 insulators 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;

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

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

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

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

11. The projected additional capital expenditure claimed by the petitioner for the period 2014-19 is as under:

SI No.	Head of Work/ Equipment	Regulation	(₹ in lakh)				
			2014-15	2015-16	2016- 17	2017-18	2018 -19
1.	Inert Gas Fire Protection System For Stage-II	14(3)(ii)	234.00	-	-	-	-
2.	Retrofitting of Voltas Make 6.6 KV SF6 circuit breaker with Vacuum circuit breaker of same ratings.	14(3) with 54	76.80	-	-	-	-
3.	R & M Of Human Machine Interface (HMI) System Of Pro control P13/42 DDCMIS.	14(3) with 54	203.99	-	-	-	-
4.	200 TR steam driven Double Effect vapour absorption machine for stage -2 a/c plant	14(3) with 54	50.00	-	-	-	-
5.	AWRS system stage-II	14(3)(ii)	-	1450.00	-	-	-
6.	11 kV double ckt line for AWRS of Arkha Ash Dyke.	14(3)(ii)	-	98.75	-	-	-
7.	Pump House over Peripheral Drain.	14(3)(iv)	-	9.70	-	-	-
8.	6.6 KV Overhead Line for Pump House.	14(3)(iv)	-	41.30	-	-	-
9.	Retrofitting of voltas make 6.6 KV SF6 circuit breaker with Vacuum circuit breaker of same ratings.	14(3) with 54	-	76.80	-	-	-
10.	Interconnection of CHP stage-I to stage-II (Conveyor 10A/B to Conv 14 A/B.),	14(3)(x)	-	-	325.00	-	-
11.	Fire Alarm System Stage - II	14(3)(iii)	-	-	198.15	-	-
12.	Down Stream Slope Protection & Balance of Peripheral Drain	14(3)(iv)	-	-	-	145.00	-



12. The total projected additional capital expenditure of ₹8039.00 lakh has been claimed by the petitioner during the period 2014-19 and the same has been discussed in the subsequent paragraphs.

### **Regulation 14(3)(ii)**

#### **Inert gas system for CCR & CER**

13. The petitioner has claimed projected additional capital expenditure of ₹234.00 lakh towards Inert gas system for Central Control Room (CCR) & Central Equipment Room (CER) in 2014-15. In justification of the same, the petitioner has submitted that Halon fire protection system has been provided for CCR and CER. It has also submitted that Halon system of fire fighting uses substances which are ozone depleting in nature and as per Environment (Protection) Act, 1986, the Central Government laid down rules for Ozone depleting substance (Regulation and Control) Rules, 2000. As per the rules, no person or enterprise shall engage in any activity that uses ozone depleting substances unless he is registered with the authority. It has further submitted that as per the Montreal Protocol on substances that deplete the Ozone layer, plants using Ozone depleting substances must phase out these systems and adopt systems which use substances that do not deplete the Ozone layer. Accordingly, the petitioner has proposed the replacement of Halon gas fire protection system with alternate inert gas. It has also submitted that the Commission vide order dated 35.5.2012 in Petition No. 270/2009 (tariff of Auraiya GPS for 2014-19) had allowed the expenditure on this asset. The petitioner has also stated that the work has been completed in both the Units of this generating station and accordingly the same may be allowed.

14. The respondent, BRPL has submitted that the petitioner has not submitted any document to indicate that the Halon fire protection system uses substances which are ozone depleting in nature. The respondent has further submitted that documents filed by the petitioner including the CEA Regulations do not support the claim of the petitioner for augmentation of Halon fire protection system with inert gas fire extinguishing system and thus the claim of the petitioner is liable to be rejected.





15. We have examined the matter. The petitioner has submitted that in terms of Montreal Protocol on substances that deplete ozone layer, plant using ozone depleting substances are required to phase out these systems and adopt systems that do not deplete the ozone layer. It is noticed that the Commission in its order dated 23.5.2012 in Petition No. 270/2009 (tariff of Auraiya GPS in 2009-14) had allowed the capitalization of this asset on the ground that the asset is required towards statutory compliance under National Fire Protection Association Standard on Clean Agent Fire Extinguishing system (NFPA-2001). It is further noticed the Commission in order dated 31.3.2015 in Petition No. 222/GT/2012 (tariff of FGUTPS stage-II for 2009-14) had allowed the projected expenditure of ₹130.00 lakh along with the corresponding de-capitalization of ₹46.80 lakh. It is however noticed that the petitioner has not furnished any reason / justification for increase in the claim towards cost of Inert gas system for CCR & CER from ₹134 lakh to ₹234 lakh. In this background and in terms of the order dated 31.3.2015 in Petition No. 222/GT/2013, we are inclined to restrict the claim of the petitioner to ₹130.00 lakh along with corresponding de-capitalization of ₹46.80 lakh. Accordingly, the projected additional capital expenditure of ₹83.20 lakh (130.00-46.80) on net basis has been allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. However, the petitioner shall submit the reasons/justification for the increase in cost along with documentary evidence at the time of truing-up of tariff in terms of the Regulation 8 of the 2014 Tariff Regulations.

### **Ash Water Recirculation System**

16. The petitioner has claimed projected additional capital expenditure of ₹1450.00 lakh in 2015-16 towards Ash Water Recirculation System (AWRS). In justification of the same, the petitioner has submitted that the Commission vide order dated 13.7.2012 had allowed the expenditure towards said work under Regulation 9(2)(ii) of the 2014 Tariff Regulations in order to comply with the terms and conditions of the Environmental Clearance/NOC issued by the Uttar Pradesh Pradushan Nigam Board vide letter dated 15.7.1996. It has been also submitted that part of work amounting to ₹636.31 lakh has been completed during the period 2009-14 period and the balance work will be completed and capitalized subsequently.





17. The respondent, BRPL has submitted that since the generating station had attained COD on 1.1.2001, the petitioner was expected to take care of the letter dated 15.7.1996 issued by the Uttar Pradesh Pradushan Nigam Board during the construction period of the project. It has further submitted that even after approval of the expenditure in terms of Regulation 9 (ii) of the 2009 Tariff Regulations, the petitioner has furnished excuse to delay and complete the work in 2015-16.

18. We have examined the matter. It is noticed that the Commission in its order dated 13.7.2012 in Petition No. 323/2009 had allowed an expenditure of ₹2233.00 lakh in 2010-11 for this generating station towards Liquid Waste treatment Plant on the ground of treatment of effluents in terms of the letter dated 15.7.1996 of Uttar Pradesh Pradushan Nigam Board. Thereafter by order dated 31.3.2015 in Petition No. 222/GT/2013, the Commission had allowed an expenditure of ₹1170.00 lakh in 2012-13 for this work in terms of the letter dated 15.7.1996. In the above background and in consideration of the fact that the effluents of the plant are required to be properly treated to conform to Pollution Board's standards, prior to discharge from the plant, we are inclined to allow the additional capital expenditure of ₹1450.00 lakh in 2015-16 under this head.

### **Fire Alarm System**

19. The petitioner has claimed projected additional capital expenditure of ₹198.15 lakh towards Fire Alarm System in 2016-17 under the Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that the expenditure is essential for ensuring safety of the plant and personnel.

20. The respondent, BRPL has submitted that the expenditure under this regulation can be incurred only on security related issues of internal/ external threat to power stations that too on advice/ direction from appropriate government agencies or statutory authorities responsible for national security/ internal security. It has further submitted that since justification furnished has no linkage with national / internal security the claim of the petitioner is liable to be rejected. Similar submissions have been made by the respondent, UPPCL.



21. The Commission vide ROP of the hearing on 24.5.2016 had directed the petitioner to furnish documentary evidence in support of claim for fire alarm system and in response, the petitioner vide affidavit dated 23.6.2016 has submitted that for better safety and security of the plant, expenditure towards fire alarm system is being carried out and the same is in compliance with Regulation 2(5) of Central Electricity Authority (Technical standards for construction of electrical plants and electrical lines), 2010 (CEA Regulations) dated 20.8.2010. In response to the submission of the respondent, BRPL, the petitioner has clarified that there is no provision for automatic fire alarm system in the generating station and for better safety and security of the plant, the expenditure has been incurred under the said regulation of CEA. It has also submitted that the claim may be considered under Regulation 14(3)(ii) instead of Regulation 14(3)(iii) of the 2014 Tariff Regulations.

22. We have examined the matter. It is observed that similar claim of the petitioner in Petition No. 293/GT/2014 (tariff of Talcher STPS-II for the period 2014-19) had been disposed of by the Commission by order dated 16.2.2017 as under:

*“.....Accordingly, the Commission has decided to consult the CEA in this regard. Therefore, the Staff of the Commission is directed to refer the matter to CEA for necessary clarification. Pending clarification in the matter, the claim of the petitioner has not been decided in this order. If on the basis of the report of the CEA, the Commission comes to a decision to allow the expenditure for augmentation of fire fighting/protection system under Change in law and for Safety and security of the plant, and in that event, the claim of the petitioner shall be considered at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations. The petitioner shall also place on record the confirmation that the expenditure on augmentation of fire fighting system/protection system is in compliance with the TAC guidelines and the discount, if any, received from the Insurance companies at the time of truing-up.*”

23. In line with the above decision, the claim of the petitioner shall be considered at the time of truing-up in terms of Regulation 8 of the 2014 Tariff Regulations. The petitioner shall also place on record the confirmation that the expenditure is in compliance with the TAC guidelines and the discount, if any, received at the time of truing-up.

#### **11 kV double ckt line for AWRS of Arkha Ash Dyke**

24. The petitioner has claimed projected additional capital expenditure of ₹98.75 lakh in 2015-16 towards 11 kV double ckt. line for AWRS of Arkha Ash Dyke. In justification of the same, the petitioner has submitted that earlier contract has been short closed after erection



of electric poles only because of delay in AWRS work. It has also submitted that the new proposal with estimated cost of ₹75.11 lakh including free materials is under process of award and accordingly the Commission may condone the deviation and allow the same. The Commission vide ROP of the hearing dated 24.5.2016 had directed the petitioner to furnish documentary evidence in support on the claim under Regulation 14(3)(ii) and in response, the petitioner vide affidavit dated 23.5.2016 has submitted as under:

*"It is submitted that capitalization of Rs 2233.00 lakh was approved by the Commission vide order dated 13.7.2012 in Petition No. 32/2009 under Regulation 9(2) (ii) towards installation of Liquid Waster Treatment Plant (LWTP) works. Further, it is submitted that as per directions of U.P Pollution Control Board given vide letter dated 15.7.1996, recycling of ash water is to be complied at station for which Ash Water Recirculation System (AWRS) at Ash Dyke has been planned. Ash Dyke is very far from the main plant, there is no separate electrical substation available in ash dyke area for supply of power to AWRS pump house. Accordingly, the work towards 11 kV double circuit line for AWRS of Arkha ash dyke are being executed for providing electrical supply to AWRS pumps in ash dyke area to recycle the ash water.*

*Documentary evidence in the form of U.P. Pollution control board letter dated 15.7.1996 in support of claim in respect of assets viz. 11 kV double ckt. Line for AWRS of Arkha Ash Dyke is attached s Annexure-C."*

25. The respondent, BRPL has submitted that since the generating station had attained COD on 1.1.2001, the petitioner was expected to take care of the letter dated 15.7.1996 issued by the Uttar Pradesh Pradushan Nigam Board during the construction period of the project. It has further submitted that even after approval of the expenditure in terms of Regulation 9 (ii) of the 2009 Tariff Regulations, the petitioner has furnished excuse to delay and complete the work in 2015-16.

26. We have examined the matter. The Commission in order dated 13.7.2012 in Petition No. 323/2009 had allowed Rs 2233.00 lakh on projected basis in the year 2010-11 and in order dated 25.5.2016 in Final trueing- up Petition No. 332/GT/2014 had allowed the expenditure of ₹636.41 lakh on actual basis towards LWTP in the year 2012-13. The Commission while allowing Rs 636.41 lakh on actual basis in the final true- up order dated 25.5.2016 had observed as follows:

*"In justification of the lower claim made, the petitioner vide affidavit dated 6.1.2016 has submitted that part of work has been completed and capitalized and balance work would be claimed in next tariff period. The respondent, BRPL has submitted that the expenditure under this head may not be allowed as the conditions concerning Change in law has not been satisfied and there is also no proximity with the time period of notification contemplating change in law. We have examined the matter. It is noticed that the expenditure for this work had been allowed in order dated 13.7.2012 and 31.3.2015, on prudence check, based on the terms and conditions of the Environmental Clearance/NOC issued by the Uttar Pradesh Pradushan Nigam Board vide letter dated 15.7.1996 and in consideration of the fact that the effluents from the plant are required to be properly treated to conform to Pollution Board's standards, prior to discharge from the plant. In this background, we*



*are inclined to allow the additional capital expenditure of `636.41 lakh in 2012-13 under Regulation 9(2)(ii) of the 2009 Tariff Regulations.”*

27. Accordingly, the expenditure claimed by the petitioner for this asset is allowed in terms of the above said orders.

### **Regulation 14 (3)(iv)**

#### **Pump House for Peripheral drain and 6.6 kV Overhead line for Pump House**

28. The petitioner has claimed projected additional capital expenditure of ₹9.70 lakh in 2015-16 towards Pump House for peripheral drain and ₹41.30 lakh in 2015-16 towards 6.6 kV Overhead Line for Pump House. In justification of the expenditure for the above works, the petitioner has submitted that the civil work for peripheral drain was approved by the Commission vide order dated 13.7.2012 in Petition No. 323/2009 under Regulation 9(2)(ii) of the 2009 Tariff Regulations. It has further submitted that the implementation of the work was delayed due to submergence of land and non availability of ash bricks. It has further submitted that the farming land of surrounding area got submerged during monsoon season due to slow drainage of water through natural drain of the area and in order to remove water logged in surrounding area of dyke, total of three pump houses & associated pumps were envisaged in original proposal amounting to ₹231.00 lakh, but the execution of only one pump house is being proposed during the period 2014-19. Accordingly, the petitioner has prayed that the expenditure claimed may be allowed under this head.

29. The respondent, BRPL has submitted that the petitioner has stated that an amount of ₹109.00 lakh was approved by the Commission in order dated 13.7.2012 in Petition No. 323/2009 under Regulation 9 (2)(iii) of the 2009 Tariff Regulations. However, it is clear from order dated 13.7.2012 that that the said amount was for construction of peripheral drain for ash dyke and Ash corridor Road and expenditure on the nature of work under this head are not permissible under Regulation 14(3)(iv) of the 2014 Tariff Regulations. Accordingly, the claim of the petitioner may be rejected.

30. We have examined the matter. The petitioner has sought capitalization of above assets / works under Regulation 14(3)(iv) of the Tariff Regulations, 2014. It is evident from the submission of the petitioner that the work of pump house for peripheral drain and 6.6 kV



Overhead line for pump house was envisaged later on and therefore, these works were not part of the original scope of work of the project. Accordingly, the claim of the petitioner for projected additional capital expenditure of ₹9.70 lakh towards pump house for peripheral drain and ₹41.30 lakh for 6.6 kV Overhead Line for pump house has not been allowed. Even otherwise, the generating station has been allowed compensation allowance to meet expenditure in terms of Regulation 17 of the 2014 Tariff Regulations. Accordingly, the petitioner may meet the expenses from the compensation allowance allowed.

### **Downstream Slope Protection & balance of peripheral drains**

31. The petitioner has claimed projected additional capital expenditure of ₹145.00 lakh towards Downstream Slope Protection & balance of peripheral drains in 2017-18. In justification of the same, the petitioner has submitted that the work of Ash dyke modification (downstream slope protection) was approved by the Commission vide order dated 13.7.2012 in Petition No. 323/2009 under Regulation 9(2)(iii) of the 2009 Tariff Regulations. It has also submitted that part of the work has been completed during the period 2009-14 and with some changes in the scope during the actual execution, the balance work shall be completed and capitalized in the year 2017-18.

32. The respondent, BRPL has submitted that the expenditure allowed vide order dated 13.7.2012 is for the work of upstream slope protection of ash dyke and the same was based on actuals. Accordingly, it has submitted that the submission of the petitioner is erroneous and may be rejected by the Commission. Similar submissions have been made by the respondent, BYPL. In response, the petitioner has clarified that the expenditure allowed vide order dated 13.7.2012 is different from the work for which expenditure has been claimed by the petitioner. It has further submitted that an amount of ₹43.67 lakh was capitalized during the period 2009-14 and the balance work could not be completed due to submergence of land in water and non-availability of ash bricks and construction works becoming impossible due to wet soil which ultimately delayed all the execution work. The petitioner had added that it has put the best efforts to complete the said works and with some change of scope in actual execution like replacing ash bricks by boulders and construction of pump houses for



continuously evacuating water from the surrounding area, the balance work will be capitalized during the period 2014-19.

33. The matter has been examined. Considering the fact that the deferred work of downstream slope protection comprise of the modification work of ash dyke, and in view of the problems faced by the petitioner, we are inclined to allow the projected additional capital expenditure claimed by the petitioner under this head.

### **Regulation 14(3)(x)**

#### **Interconnection of CHP Stage-I to Stage-II**

34. The petitioner has claimed projected additional capital expenditure of ₹325.00 lakh towards interconnection of CHP Stage-I to Stage-II (Conveyor 10A/B to Conveyor 14 A/B) in 2016-17 under the Regulation 14(3)(x) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that the coal unloading system was not envisaged in Stage-III of the generating station and due to increase in coal supply through Box-N Wagons, the system remains under stress. It has also submitted that the said interconnection is necessary in order to reduce the excessive stress from the system of Stage-I of the generating station.

35. The respondents, UPPCL and BRPL have pointed out that the expenditure incurred is not on account of modification required in fuel receipt system arising due to non-materialization of coal supply and hence the expenditure may be disallowed.

36. We have examined the matter. Regulation 14 (3)(x) of the 2014 Tariff Regulations provides for grant of expenditure necessitated on account of modification required or done in fuel receiving system arising due to non- materialization of coal supply corresponding to full coal linkage as a result of circumstances not within the control of the generating station. It is noticed from the submissions of the petitioner that the expenditure has been incurred to reduce stress from the system of Stage-I as coal unloading system was not envisaged in Stage-III. Since, the expenditure is not on account of modifications of fuel receiving system and does not made the prerequisite under Regulation 14 (3)(x) of the 2014 Tariff



Regulations, we are not inclined to allow the claim of the petitioner. However, compensation allowance has been granted to the generating station and accordingly the petitioner may meet the said expenditures from the compensation allowance granted to the generating station in terms of the Regulation 17 of the 2014 Tariff Regulations.

### **Regulation 14(3) with Regulation 54**

#### **Retrofitting of Voltas make 6.6 kV SF6 Circuit Breaker with Vacuum Circuit Breaker of same rating**

37. The petitioner has claimed projected additional capital expenditure of ₹76.80 lakh each in the year 2014-15 and 2015-16 towards Retrofitting of Voltas make 6.6 kV Circuit Breaker with Vacuum Circuit Breaker of the same rating. In justification of the same, the petitioner has submitted as under:

*“The existing Voltas make circuit breaker has gone out of production and has become obsolete. The spares are not available. It is very difficult to maintain the same. So these circuit breakers are being replaced with new vacuum type breakers. Stage-II, Unit-I work has been completed in Apr/May – 2014. Unit-II work to be done in next shutdown in July, 2015”*

38. The respondents, UPPCL and BRPL have pointed out that the petitioner has not identified the relevant regulation under which the claim has been made and therefore, the claim is not permissible under Regulation 14(3) of the 2014 Tariff Regulations. It has also stated that a mechanism of compensation allowance has been provided under Regulation 17 of the 2014 Tariff Regulations to meet expenditure on assets not allowable specifically under the said regulation. Accordingly, the claim of the petitioner may be rejected.

39. We have examined the matter. It is evident from the submissions of the petitioner that the expenditure has been claimed on account of circuit breakers becoming obsolete which needs to be replaced with new vacuum type breakers. However, the claim of the petitioner does not fall under any of the provisions of Regulation 14(3) of the 2014 Tariff Regulations. It is observed that the petitioner has also not indicated the specific provision of the regulation under which the said asset is sought to be capitalized and has sought Power to Relax under Regulation 54 of the 2014 Tariff Regulations. The Commission vide order dated 31.3.2015 in Petition No. 222/GT/2012 had disallowed the said expenditure on the ground that the





petitioner had not indicated the specific provisions of the regulations under which the expenditure was claimed. The relevant portion of the said order is extracted as under:

*“30. The matter has been examined. It is evident from the submissions of the petitioner that the expenditure has been claimed as the Circuit Breakers are being replaced on becoming obsolete and no spares are available. However, the claim of the petitioner does not fall under any of the provisions of Regulation 9(2) of the 2009 Tariff Regulations. The petitioner has also not indicated the specific provision of the regulation under which the said asset is sought to be capitalized. In the absence of this, the claim of the petitioner for capitalization of this asset has not been allowed. However, as the asset has become obsolete and is not in use, the de-capitalization of gross value of ₹28.00 lakh has been considered.”*

40. In this background and in line with the above decision, the claim of the petitioner for capitalization of this asset is not allowed. However, Compensation allowance has been granted to the generating station to meet expenditure and accordingly the petitioner may meet this expenditure from Compensation allowance. However, as the asset has become obsolete and is not in use, the de-capitalization of gross value of ₹28.00 lakh has been considered in line with the decision in order dated 31.3.2015 in Petition No. 222/GT/2012.

#### **R&M of Human Machine Inter-face (HMI)**

41. The petitioner has claimed projected additional capital expenditure of ₹503.99 lakh in 2014-15 for Up-gradation of Human Machine Interface (HMI) system of Protocol P13/42 DDCMIS. In justification of the same, the petitioner has submitted as under:

*“The HMI module has become obsolete. To make the system effective and to reduce breakdown, the system is being replaced.”*

42. The respondents, UPPCL and BRPL have pointed out that the petitioner has not identified the relevant regulation under which the claim has been made and therefore, the claim is not permissible under Regulation 14(3) of the 2014 Tariff Regulations.

43. The matter has been examined. It is noticed that the petitioner had claimed the expenditure under this head in Petition No. 222/GT/2013 and the same was rejected by the Commission vide order dated 31.3.2015. Further, the petitioner had claimed the expenditure in Petition No. 332/GT/2014 and the Commission vide order 25.5.2016 had disallowed the said claim of this generating station. The relevant portion of the order dated 25.5.2016 is reproduced as under:



“22. The respondent, UPPCL vide reply affidavit dated 31.10.2014 has submitted that the expenditure should be met from Compensation Allowance. The respondent, BRPL has pointed out that the petitioner demand of allowing this expenditure under Regulation 44 “Power to Relax” Order in Petition No. 332/GT/2014 is unreasonable and would lead to undue profit to the Petitioner. The matter has already been examined and item was disallowed in order dated 31.3.2015. We intend to continue with the decision”

44. In this background and in line with the decisions of the Commission in Petitions No. 222/GT/2013 and 332/GT/2014 as above, we are not inclined to allow the expenditure of ₹503.99 lakh claimed by the petitioner under this head.

#### **200 TR Steam driven double effect vapour Absorption machine for Stage-II A/C Plant**

45. The petitioner has claimed actual additional capital expenditure of ₹50.00 lakh in 2014-15 towards Vapour Absorption Machine for Stage-II A/C Plant of the generating station. In justification of the same, the petitioner has submitted that the projected expenditure is being implemented under Energy Conservation drive. It is noticed that the petitioner has not indicated the specific provision of the regulation under which the said asset is sought to be capitalized. Even otherwise, the expenditure sought to be capitalized is minor in nature and hence not allowed to be capitalized. Accordingly, the petitioner may meet the said claim out of the compensation allowance granted to the generating station.

46. Based on the above discussions, the projected additional capital expenditure allowed for the period 2014-19 are as under:

<i>(₹ in lakh)</i>						
	<b>Head of Work/ Equipment</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016- 17</b>	<b>2017-18</b>	<b>2018 - 19</b>
1	Inert Gas Fire Protection System For Stage-II	130.00	0.00	0.00	0.00	0.00
	De-capitalization of Inert Gas Fire Protection System For Stage-II	(-)46.80	0.00	0.00	0.00	0.00
	Net Capitalization allowed	83.20	0.00	0.00	0.00	0.00
2	Retrofitting of voltas make 6.6 kv sf6 circuit breaker with Vacuum circuit breaker of same ratings.	(-) 28.00	(-)28.00	0.00	0.00	0.00
3	AWRS system stage-II	0.00	1450.00	0.00	0.00	0.00
4	11 kV double ckt line for AWRS of Arkha Ash Dyke.	0.00	98.75	0.00	0.00	0.00
5	Fire Alarm System Stage - II	0.00	0.00	0.00	0.00	0.00
6	Down Stream Slope Protection & Balance of Peripheral Drain	0.00	0.00	0.00	145.00	0.00
	<b>Total</b>	<b>55.20</b>	<b>1520.75</b>	<b>0.00</b>	<b>145.00</b>	<b>0.00</b>



47. Accordingly, the capital cost allowed for the generating station for the period 2014-19 is as under:

(₹ in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	130591.02	130522.46	132043.21	132043.21	132188.21
Admitted Projected additional capital expenditure	55.20	1520.75	0.00	145.00	0.00
De-capitalization pertaining to Unit-3 as submitted by petitioner vide affidavit dated 4.11.2016	(-123.76)	0.00	0.00	0.00	0.00
<b>Closing capital cost</b>	<b>130522.46</b>	<b>132043.21</b>	<b>132043.21</b>	<b>132188.21</b>	<b>132188.21</b>

### Debt–Equity Ratio

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

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

Provided that:

- (i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- (ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- (iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-equity ratio.

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

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

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

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

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



49. The gross loan and equity amounting to ₹91298.21 lakh and ₹39127.81 lakh respectively as on 31.3.2014 as considered in order dated 25.5.2016 in Petition 332/GT/2014. However, on account of change in opening capital cost gross loan and equity amounting to ₹91413.71 lakh and ₹39177.31 lakh as on 1.4.2014 and same has been considered. Further, the additional expenditure approved above has been allocated in debt-equity ratio of 70:30.

### **Return on Equity**

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

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

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

*Provided that:*

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

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

*iii) additionalRoE 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) additionalRoE shall not be admissible for transmission line having length of less than 50 kilometers.*

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

*“Tax on Return on Equity (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income*



stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

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.

52. The petitioner has claimed return on equity considering the base rate of 15.5% and effective tax rate of 23.939%. However, it is observed that in terms of the directions of the Commission in Petition No. 290/GT/2014 (tariff of Singrauli TPS for 2014-19), the petitioner vide affidavit dated 23.9.2015 has worked out the effective tax rate as 22.584% based on the actual profit and tax paid for the year 2014-15. During the hearing of NTPC petitions, beneficiaries had raised an issue on the computation of effective tax rate. This Issue being not confined to a single petition and being generic in nature as the issue is applicable to all NTPC petitions uniformly need deliberation. On this issue against specific query through ROP, the petitioner vide its affidavit dated 08.01.2016 in petition number 280/GT/2014 (Farakka STPS Stage-III for 2014-19) has filed Auditor's Certificate regarding deposit of advance tax on generation business for 2014-15 as well as Income Tax return for the 2014-15 and advance tax for 2015-16. We have perused the documents. Though the regulation has prescribed computation of effective tax rate on the basis of tax paid, we deem it proper to allow grossing up on MAT rate considering the fact that the petition is getting disposed of in 2016- 17. Accordingly, the effective tax rate (MAT) of 20.961% has been considered for 2014-15 and 21.342% for 2015-16 onwards up to 2018-19 for the purpose of grossing up of the base rate of 15.5%. Based on the above, the rate of ROE works out to 19.610% for 2014-15 and 19.705% for 2015-16 onwards. Accordingly, return on equity has been worked out as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	39177.31	39156.74	39612.96	39612.96	39656.46
Addition of equity due to additional capital expenditure	(20.57)	456.23	0.00	43.50	0.00



Normative equity - Closing	39156.74	39612.96	39612.96	39656.46	39656.46
Average Normative Equity	39167.02	39384.85	39612.96	39634.71	39656.46
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for respective years	20.961%	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax)	19.610%	19.705%	19.705%	19.705%	19.705%
<b>Return on Equity (Pre Tax)- annualised</b>	<b>7680.65</b>	<b>7760.78</b>	<b>7805.73</b>	<b>7810.02</b>	<b>7814.31</b>

## Interest on Loan

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

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

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

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

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

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

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

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

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

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

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

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

*Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating*





company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

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

(a) The gross normative loan of ₹91413.71 lakh as on 1.4.2014 has been considered.

(b) Cumulative repayment of loan of ₹91413.71 lakh has been considered as on 1.4.2014.

(c) Addition to normative loan on account of the admitted additional capital expenditure has been considered.

(d) Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2014-19. Further proportionate adjustment has been made to the repayments corresponding to discharges and reversals of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2014.

(e) In line with the provisions of the above regulation, weighted average rate of interest has been calculated applying the actual loan portfolio existing as on 1.4.2014 along with subsequent additions during the period 2014-19, if any, for the generating station. In case of loans carrying floating rate of interest, the rate of interest as provided by the petitioner has been considered for the purpose of tariff.

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

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan	91413.71	91365.72	92430.25	92430.25	92531.75
Cumulative repayment of loan upto previous year / period	91413.71	91365.72	92430.25	92430.25	92531.75
Net Loan Opening	0.00	0.00	0.00	0.00	0.00
Addition due to Additional capital expenditure	(47.99)	1064.53	0.00	101.50	0.00
Repayment of loan during the year	91.00	1084.13	0.00	101.50	0.00
Less: Repayment adjustment on account of de-caps	138.99	19.60	0.00	0.00	0.00
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2014	0.00	0.00	0.00	0.00	0.00
Net Repayment	(-)47.99	1064.53	138.71	101.50	0.00
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	10.2575%	10.2575%	10.2575%	10.2575%	10.2575%
<b>Interest on Loan</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>





## Depreciation

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

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

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

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

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

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

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

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

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

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

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

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

*(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.*

*(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall*



be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”

57. The cumulative depreciation as on 31.3.2014 vide order dated 25.5.2016 in Petition No. 332/GT/2014 is ₹78379.72 lakh. On account of change in opening capital, the cumulative depreciation works out of ₹78490.19 lakh. The depreciation has been calculated by spreading over of the balance depreciable value. The balance useful life as on 1.4.2014 as per order dated 25.5.2016 is 11.33 years, and the same has been considered for calculation of depreciation. The petitioner is however directed to furnish information regarding un-recovered depreciation at the time of truing-up of tariff of the generating station. Accordingly, depreciation has been computed as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Average Capital Cost	130556.74	131282.84	132043.21	132115.71	132188.21
Depreciable value (ex. land)@ 90%	117108.21	117761.69	118446.03	118511.28	118576.53
Balance useful life of the assets	11.33	10.33	9.33	8.33	7.33
Balance depreciable value	38618.02	35975.45	33194.74	29703.41	26204.25
<b>Depreciation (annualized)</b>	<b>3407.47</b>	<b>3481.50</b>	<b>3556.58</b>	<b>3564.41</b>	<b>3573.31</b>
Cumulative depreciation at the end	81897.66	85267.74	88807.87	92372.28	95945.58
Less: Cumulative Depreciation adjustment on a/c of un-discharged liabilities	0.00	0.00	0.00	0.00	0.00
Less: Cumulative Depreciation reduction due to decapitalization	111.42	16.45	0.00	0.00	0.00
<b>Cumulative depreciation (at the end of the period)</b>	<b>81786.24</b>	<b>85251.29</b>	<b>88807.87</b>	<b>92372.28</b>	<b>95945.58</b>

## O&M Expenses

58. The petitioner has claimed O&M expenses as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Norms for 210 MW units under Reg. 29(1) (₹.lakh/MW/year)	23.90	25.40	27.00	28.70	30.51
<b>O&amp;M Expenses under Reg. 29(1) – 420 MW</b>	<b>10038.00</b>	<b>10668.00</b>	<b>11340.00</b>	<b>12054.00</b>	<b>12814.20</b>
O&M Expenses under Reg. 29(2)					
<b>Water Charges</b>	134.53	143.07	152.16	161.82	172.10
<b>Total O&amp;M Expenses</b>	<b>10172.53</b>	<b>10811.07</b>	<b>11492.16</b>	<b>12215.82</b>	<b>12986.30</b>

59. Regulation 29 (1) (a) of the 2014 Tariff Regulations provides the year-wise O&M expense norms for the generating station. Accordingly, the year-wise O&M expenses in terms of the above said norms are allowed as under:



(₹ in lakh)

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

## Water Charges

60. 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 capitalisation or consumption of stores and spares and renovation and modernization”*

61. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2013-14 has been furnished as under:

Description	Remarks
Type of Plant	Coal
Type of cooling water system	Induced Draft Cooling Tower / Closed Cycle
Consumption of water	22.422 Cusec
Water Charges Rate	6,00,000 ₹./cusec
Total Water Charges	₹134.532 Lakh.

62. In order to examine the trend of the actual water consumption and rate of water charges, the petitioner was directed vide ROP of the hearing dated 24.5.2016 to furnish the details of the actual water consumption along with the rate of water charges for the last five years (i.e 2009-10 to 2013-14) along with relevant notification in support of the same. In response, the petitioner vide affidavit dated 23.6.2016 had submitted that the contracted quantity of water and allocated quantity of water for the generating station for all three stages together is 105 cusecs (cubic foot/sec) . The water for the entire generating station has been worked out on the basis of running hours of the pumps in terms of the MOU with Irrigation department of State of U.P and payments have been made by the petitioner on the basis of total consumption of water. As water facility is common to all three stages, the distribution of consumptive water among stages has been done on the basis of stage capacity i.e. 2:2:1 for stage-I, stage-II and stage-III respectively. The actual water consumption for the last 5 years i.e for 2009-14 and the corresponding charges payable is as under:



(₹ in lakh)

	Total water consumption (cusec)	Pro-rata water consumption (cusec)	Royalty charges payable for Unchahar-II		Water consumption charges payable for Unchahar-II *		Total canal maintenance & Misc. charges for station	Pro-rata Maintenance charges for Unchahar-II
			Rate (₹ lakh /cusec)	Amount	Rate Rs./1000 Cuft.)	Amount		
1	2	3 = (2)*(2/5)	4	(5) =(4)*(3)	6	7=(6)*(3) )*31536/ 10000	8	9= (8)*(2/5)
2009-10	49.22	19.688	1.5	29.53	3.12	19.37	38.62	15.45
2010-11	49.82	19.928	1.5	29.89	3.12	19.61	85.81	34.32
2011-12	49.92	19.968	1.5/6	95.08	3.12/12.48	62.37	108.45	43.38
2012-13	50.53	20.212	6.0	121.27	12.48	79.55	55.89	22.36
2013-14	50.84	20.336	6.0	122.02	12.48	80.04	53.81	21.52

### Projection for Water Charge Rate for 2014-19

63. As per provisions of Regulation 29(2) of the 2014 Tariff Regulations, Water charges are to be allowed separately. It could be observed from the table above that water charges in 2013-14 works out to ₹223.58 lakh (122.02+80.04+21.52). However, the petitioner has furnished actual water charges amounting to ₹134.532 lakh in 2013-14. The petitioner has submitted that the payment of water charges is based on actual consumption and not on the basis of allocation. It has further submitted that U.P. Irrigation Department has increased water charges fourfold from ₹3.12 per 1000 cu ft to ₹12.48 per 1000 cu ft as well as Royalty charges from ₹1.50 lakh/cusec/year to ₹6.00 lakh/cusec/year w.e.f. 15.7.2011. However, the water charges for the period 2009-14 has not been paid by the petitioner as the same has not been billed by U.P. Irrigation Department, and shall be paid as and when billed. The petitioner has claimed water charges for the year 2014-15 considering the actual water charges of ₹134.532 lakh for the year 2013-14 and escalating the same @ of 6.35% on year to year for the period 2014-19. Since the water charges rate has been revised by U.P. Irrigation Department, it would be prudent to project water charges for the period 2014-19 based on revised rate instead of water charges claimed for Rs 134.53 for the year 2013-14 based on old rates. In this backdrop and to reduce the liability of beneficiaries for paying enhanced charges on actual basis, the actual water charges of ₹223.58 lakh is allowed as projected water charges for the period 2014-19 without any escalation, subject to truing up, as under:



(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
223.58	223.58	223.58	223.58	223.58

64. Accordingly, the total O&M expenses including water charges claimed and allowed is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses as claimed (a)	10038.00	10668.00	11340.00	12054.00	12814.20
<b>O&amp;M Expenses as allowed (b)</b>	<b>10038.00</b>	<b>10668.00</b>	<b>11340.00</b>	<b>12054.00</b>	<b>12814.20</b>
Water charges as claimed (c)	134.53	143.07	152.16	161.82	172.10
<b>Water charges as allowed (d)</b>	<b>223.58</b>	<b>223.58</b>	<b>223.58</b>	<b>223.58</b>	<b>223.58</b>
Total O&M expenses as claimed (a + c)	<b>10172.53</b>	<b>10811.07</b>	<b>11492.16</b>	<b>12215.82</b>	<b>12986.30</b>
<b>Total O&amp;M expenses as allowed (b+d)</b>	<b>10261.58</b>	<b>10891.58</b>	<b>11563.58</b>	<b>12277.58</b>	<b>13037.78</b>

### Enhancement of O&M expenses

65. The petitioner has submitted that the salary / wage revision of the employees of the petitioner is due with effect from 1.1.2017. The O&M expenses claimed by the petitioner is based on the 2014 Tariff Regulations. The escalation of 6.35% provided in the O&M has not covered the enhanced employee cost w.e.f 1.1.2017. The petitioner, therefore, craves liberty of the Commission to seek enhancement in the O&M expenses with effect from 1.1.2017 towards the increased salary on account of salary revision due from 1.1.2017, based on the actual payments whenever paid by it. The matter has been examined. The Commission in the Statement of Reasons to the 2014 Tariff Regulations has observed as under:

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

66. Accordingly, the prayer of the petitioner for enhancement of O&M expenses, if any, due to pay revision may be examined by the Commission, on a case to case basis, subject to the implementation of pay revision as per DPE guidelines and the filing of an appropriate application by the petitioner in this regard.



## Capital spares

67. The petitioner has not claimed capital spares on projection basis during the period 2014-19. Accordingly, the same has not been considered in this order. The claim of the petitioner, if any, shall be considered on merits, at the time of truing-up of tariff, after prudence check.

## Operational Norms

68. The operational norms considered by the petitioner in respect of the generating station are as under:

Target Availability (%)	83
Heat Rate (kcal/kwh)	2450
Auxiliary Energy Consumption (%)	9
Specific Oil Consumption (ml/ kwh)	0.50

69. The above operational norms as per Regulation 36 of the 2014 Tariff Regulations considered for tariff calculations by the petitioner are in order. However, NAPAF of 83% shall be reviewed based on actual feedback after 3 years of operation.

## Normative Annual Plant Availability Factor

70. Regulation 36 (A) (a) of the 2014 Tariff Regulations provides as under:

*“(a) All Thermal generating stations, except those covered under clauses (b) (c) (d) &(e)- 85%.*

*Provided that in view of the shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed.*

*The above provision shall be reviewed based on actual feedback after 3 years from 01.04.2014.”*

71. The petitioner has considered the target availability norm of 83% during 2014-19. The Commission due to shortage of domestic coal supply has relaxed target availability norm to 83% for first 3 years from 1.4.2014 and the same shall be reviewed after 3 years. Accordingly, in terms of the above regulation, NAPAF of 83% is allowed for the period 2014-15 to 2016-17 and 85% for the period 2017-18 to 2018-19.

## Heat Rate (kcal/kwh)

72. Regulation 36(C)(a) of the 2014 Tariff Regulations provides the Gross Station Heat Rate of 2450 kCal/kWh for 200 /210/250 MW sets whose COD's were before 1.4.2009. The



COD of the generating station is 22.3.1989 which comprises of two units of 210 MW. The Heat rate of 2450 kCal/kWh considered by the petitioner is in order and is allowed.

### **Auxiliary Power Consumption**

73. Regulation 36(E)(a) of the 2014 Tariff Regulations provides Auxiliary Energy Consumption of 8.5% for 200 MW series for coal based Generating stations with Natural Draft cooling tower or without cooling tower provided further that generating stations with induced draft cooling shall be further increased by 0.5%. The generating station comprises of five units of 200 MW and two Units of 500 MW each. Accordingly, Auxiliary Energy Consumption of 9.0% (8.5 + 0.5) considered by the petitioner is in order and is allowed.

### **Specific Oil Consumption**

74. Regulation 36(D)(a) of the 2014 Tariff Regulations provides for secondary fuel oil consumption of 0.50 ml/kWh for coal-based generating station. Hence, the secondary fuel oil consumption considered by the petitioner is as per norms and is allowed.

### **Interest on Working Capital**

75. Sub-section (a) of clause (1) of 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 towards stock for 15 days for pit-head generating stations and 30 days for non-pit-head generating station for generation corresponding to the normative annual plant availability factor or the maximum coal stock storage capacity whichever is lower.*

*ii) Cost of coal for 30 days for generating corresponding to the normative annual plant availability factor.*

*iii) Cost of secondary fuel oil for two month for generating 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 charge and energy charge for sale of electricity calculated on normative plant availability factor; and*

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





## Fuel Components in working capital

76. The petitioner has claimed cost for fuel component in working capital based on 'as fired' GCV of coal procured and burnt for the preceding three months of January, 2014, February, 2014 and March, 2014 and Secondary fuel oil for the preceding three months of January, 2014, February, 2014 and March, 2014, as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for stock -1 months	6697.22	6715.57	6697.22	6697.22	6697.22
Cost of Coal for generation -1 months	6697.22	6715.57	6697.22	6697.22	6697.22
Cost of Secondary fuel oil - 2 months	141.97	142.36	141.97	141.97	141.97

77. However, in terms of the 2014 Tariff Regulations, the fuel components and ECR have to be worked out and are to be allowed based on the price and GCV of primary fuel on 'as received' basis for the preceding three months i.e. January'2014, February'2014 and March, 2014 respectively. Since, the GCV of coal on 'as received' basis is not available with the petitioner, the Commission vide ROP of the hearing on 24.5.2016 directed the petitioner as under:

- (a) To furnish details of 'as billed' GCV of coal prior to washing of coal for the months of January, 2014 February, 2014 and March, 2014.
- (b) In case GCV of coal on 'as billed' by the coal company is not available, invoice of coal company for the above months shall be submitted.

78. In response to the ROP of the hearing on 24.5.2016, the petitioner vide affidavit dated 23.6.2016 had submitted that "as billed" GCV of washed coal has not been indicated by the coal company in the invoices and is not available.

79. The Commission while determining the tariff of various generating station of the petitioner namely Simhadri Stage-I (order dated 27.6.2016 in Petition No. 270/GT/2014), Vindhyaachal STPS Stage-II (order dated 6.2.2017 in Petition No. 327/GT/2014), Mauda Stage-I (order dated 11.2.2017 in Petition No. 328/GT/2014), Ramagundam Stage-I & II (order dated 24.1.2017 in Petition No. 292/GT/2014), Kahalgaon stage-II (order dated 21.1.2017 in Petition No. 283/GT/2014), Rihand STPS Stage-III (order dated 6.2.2017 in Petition No. 372/GT/2014) etc., for the period 2014-19 had allowed fuel components and 2 months of Energy Charges in



working capital considering the GCV of coal on 'as billed' basis and had allowed the adjustment formulae for total moisture as under:

$$\frac{\text{GCV} \times (1 - \text{TM})}{(1 - \text{IM})}$$

Where: GCV=Gross Calorific value of coal  
 TM=Total moisture  
 IM= Inherent moisture

80. In the absence of GCV of coal on 'as billed' as well as on 'as received' basis for the preceding 3 months i.e. January, 2014, February, 2014 and March, 2014, the computation of fuel component and 2 months Energy charges in working capital has not been considered for the period 2014-19.

81. In view of this, Interest on Working capital is allowed without any fuel components and 2 months Energy Charges in Working Capital. It is up to the petitioner to get GCV 'as billed' from the coal supplier and work out the IWC components.

### Maintenance Spares

82. The petitioner has claimed maintenance spares in the working capital as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
2034.51	2162.21	2298.43	2443.16	2597.26

83. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O & M expenses as specified in Regulation 29. In terms of Regulation 29(2) of the 2014 Tariff Regulations and in line with Commission's order dated 6.10.2015 in Petition No. 186/GT/2014 (Sugen power plant), the maintenance spares @ 20% of O & M expenses allowed is as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
2052.32	2178.32	2312.72	2455.52	2607.56

### Receivables

84. Receivables equivalent to two months of capacity charge and energy charges has been worked out and allowed as under:



(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months	0.00	0.00	0.00	0.00	0.00
Fixed Charges – for two months	3707.11	3844.92	3984.35	4112.81	4249.63
<b>Total</b>	<b>3707.11</b>	<b>3844.92</b>	<b>3984.35</b>	<b>4112.81</b>	<b>4249.63</b>

### O & M Expenses (1 month)

85. O&M expenses for 1 month claimed by the petitioner for the purpose of working capital in Form-13 B is as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
847.71	900.92	957.68	1017.98	1082.19

86. Regulation 28 (a) (vi) of the 2014 Tariff Regulations provides for O & M expenses for one month for coal based generating station. Accordingly, O&M expenses for 1 month is allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
855.13	907.63	963.63	1023.13	1086.48

### Rate of interest on working capital

87. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

*“Interest on working Capital: (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.”*

88. In terms of the above regulations, SBI PLR of 13.50% has been considered for the purpose of calculating interest on working capital. Accordingly, Interest on working capital has been computed as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Fuel Cost	0.00	0.00	0.00	0.00	0.00
Liquid Fuel	0.00	0.00	0.00	0.00	0.00
O & M expenses - 1 months	855.13	907.63	963.63	1,023.13	1,086.48
Maintenance Spares	2052.32	2178.32	2312.72	2455.52	2607.56
Receivables - 2 months	3707.11	3844.92	3984.35	4112.81	4249.63
<b>Total Working Capital</b>	<b>6614.56</b>	<b>6930.87</b>	<b>7260.69</b>	<b>7591.46</b>	<b>7943.67</b>
Rate of interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
<b>Interest on Working Capital</b>	<b>892.97</b>	<b>935.67</b>	<b>980.19</b>	<b>1024.85</b>	<b>1072.40</b>



## Compensation Allowance

89. The petitioner has claimed unit-wise compensation allowance to meet expenses on new assets of capital nature including in the nature of minor assets as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
84.00	147.00	210.00	210.00	210.00

90. Regulation 17(1) of the 2014 Tariff Regulations provides as under:

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

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

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

91. In terms of the above regulation, both the units of the generating station are in commercial operation for more than 10 years from their respective date of CODs and accordingly, the compensation allowance worked out as under:

(₹ in lakh)				
Sl.No.		Unit -I	Unit -II	
1	Capacity in MW	210	210	
2	COD	1.1.2001	1.3.2000	
3	Useful life as on 1.4.2014	14.09	13.25	
4	Actual useful life after			
	a) 10 years	1.3.2010	1.1.2011	
	b) 15 years	1.3.2015	1.1.2016	
	c) 20 years	1.3.2020	1.1.2021	
	d) 25 years	1.3.2025	1.1.2026	
5	Compensation Allowance (unit-wise)			Total
	2014-15	42.00	42.00	84.00
	2015-16	105.00	42.00	147.00
	2016-17	105.00	105.00	210.00
	2017-18	105.00	105.00	210.00
	2018-19	105.00	105.00	210.00
	<b>Total</b>	<b>462.00</b>	<b>399.00</b>	<b>861.00</b>

92. Therefore, the compensation allowance of ₹861.00 lakh for Unit-I and Unit-II of the generating station during the period 2014-19 is allowed.



## Annual Fixed Charges

93. Accordingly, annual fixed charges approved for the generating station for the period from 2014-19 is summarized as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3407.47	3481.50	3556.58	3564.41	3573.31
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7680.65	7760.78	7805.73	7810.02	7814.31
Interest on Working Capital	892.97	935.67	980.19	1024.85	1072.40
O&M Expenses	10261.58	10891.58	11563.58	12277.58	13037.78
Compensation Allowance	84.00	147.00	210.00	210.00	210.00
<b>Total</b>	<b>22326.67</b>	<b>23216.52</b>	<b>24116.08</b>	<b>24886.85</b>	<b>25707.78</b>

Note: All figures are on annualised 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.

## Month to Month Energy Charges

94. The petitioner shall determine month to month Energy Charges Rate (ECR) in Rupees per kWh to three decimal places on ex-power plant in accordance with the following formulae:

(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”

95. The petitioner shall compute and claim the Energy Charges on month to month basis from the beneficiaries based on the formulae given under Regulation 30(6)(a) of the 2014 Tariff Regulations read with Commission's order dated 25.1.2016 in Petition No. 283/GT/2014.

96. The Commission in its order dated 19.2.2016 in Petition No. 33/MP/2014 (TPDDL v NTPC & anr) had directed as under:

“The respondents shall introduce help desk to attend to the queries and concerns of the beneficiaries with regard to the energy charges. The contentious issues regarding the energy charges should be sorted out with the beneficiaries at the senior management level, preferably at the level of Executive Directors.”



Accordingly, in line with the above decision, help desk shall be introduced by the petitioner and contentious issues if any, which arise in respect of energy charges for this generating station shall be sorted out with the beneficiaries at the Senior Management level.

### **Application Fee and Publication Expenses**

97. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19. The petitioner has deposited the filing fees of ₹1848000/- each for the year 2014-15, 2015-16 and 2016-17 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations, we direct that the petitioner shall be entitled to recover *pro rata*, the filing fees and the expenses of incurred on publication of notices directly from the respondents on submission of documentary proof. The filing fees for the remaining years of the tariff period 2017-19 shall be recovered *pro rata* after deposit of the same and production of documentary proof.

98. The annual fixed charges approved for the period 2014-19 as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

99. Petition No. 289/GT/2014 is disposed of in terms of the above.

**-Sd/-**  
**(Dr. M.K.Iyer)**  
**Member**

**-Sd/-**  
**(A. S. Bakshi)**  
**Member**

**-Sd/-**  
**(A. K. Singhal)**  
**Member**

**-Sd/-**  
**(Gireesh B. Pradhan)**  
**Chairperson**

