**CENTRAL ELECTRICITY REGULATORY COMMISSION**
**NEW DELHI**

**Petition No. 6/GT/2017**

**Coram:**
**Shri P.K. Pujari, Chairperson**
**Dr. M.K. Iyer, Member**

**Date of Order: 23rd April, 2019**

**In the matter of**

Approval of tariff of Parbati Hydroelectric Project, Stage-III (520 MW) for the period from 1.4.2014 to 31.3.2019

**And**

**In the matter of**

NHPC Ltd
NHPC Office Complex,
Sector-33, Faridabad
Haryana-121003 **… Petitioner**

**Vs**

1. Punjab State Power Corporation Ltd,
The Mall, Near Kali Badi Mandir,
Patiala - 147001

2. (a) Dakshin Haryana Bijili Vitaran Nigam Ltd,
(b) Uttar Haryana Bijili Vitaran Nigam Ltd
Shakti Bhawan, Sector - 6
Panchkula - 134109

3. BSES-Rajdhani Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi – 110019

4. Uttar Pradesh Power Corporation Ltd,
Shakti Bhavan, 14, Ashok Marg,
Lucknow - 226001

5. BSES-Yamuna Power Ltd.,
Shakti Kiran Building,
Karkardooma, Delhi-110072

6. (a)Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
(b) Jaipur Vidyut Vitaran Nigam Ltd.,
Vidut Bhavan, Janpath, Jyoti Nagar,
Jaipur-302005

7. Tata Power Delhi Distribution Ltd.,
Hudson Lane, Kingsway Camp,
New Delhi-110009

8. Jodhpur Vidyut Vitaran Nigam Ltd.,
New Power House, Industrial Area,
Jodhpur-342003

9. Uttaranchal Power Corporation Ltd
Urja Bhawan, Kanwali Road,
Dehradun-248001

10. Ajmer Vidyut Vitaran Nigam Ltd
Old Power House, Hathi Bhatta,
Jaipur Road, Ajmer-305001

11. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla-171004

12. Engineering Department, UT Secretariat
UT Secretariat, Sector 9D
Chandigarh-160009

13. Power Development Department, Government of J&K
New secretariat,
Jammu-180001 (J&K) **... Respondents**

**Parties Present:**

Shri A.K. Pandey, NHPC
Shri Piyush Kumar, NHPC
Shri Jitender Kumar, NHPC
Shri R.B. Sharma, Advocate, BRPL & BYPL
Shri Mohit Mudgal, Advocate, BRPL & BYPL
Ms. Aayushi Singh, Advocate, TPDDL
Shri Sameer Singh, BYPL
Ms. Shefali Sobti, TPDDL
Shri Manish Garg, UPPCL

## ORDER

This Petition has been filed by Petitioner, NHPC for approval of generation tariff of Parbati Hydroelectric Project, Stage-III (520 MW) (hereinafter 'the generating station') for the period from 1.4.2014 to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as 'the 2014 Tariff Regulations').

2. The generating station situated in the State of Himachal Pradesh, is a pondage type scheme, providing peaking support to the grid when operated in tandem with upstream Parbati HE Project, Stage-II. The project has been sanctioned by the Government of India in November, 2005 at a cost of ₹ 2304.56 crore at May, 2005 price level. Thereafter on 9.10.2018, the MOP, GOI has conveyed to the petitioner, the approval of RCE for ₹2539.75 crore including IDC & FC of ₹430.72 crore. The generating station comprises of four units of 130 MW each and the date of commercial operation (COD) of the units are as under:

| Unit | COD |
|---|---|
| I & II | 24.3.2014 |
| III | 30.3.2014 |
| IV | 6.6.2014 |

3. The Commission by order dated 5.4.2019 in Petition No. 7/GT/2017 had determined the fixed charges of the generating station for the period from 24.3.2014 till 31.3.2014 as under:

*(₹ in lakh)*

| | 24.3.2014 to 29.3.2014 | 30.3.2014 to 31.3.2014 |
|---|---|---|
| Return on Equity | 128.25 | 64.22 |
| Interest on Loan | 139.18 | 69.64 |
| Depreciation | 102.63 | 51.40 |
| Interest on Working Capital | 10.53 | 5.27 |
| O & M Expenses | 40.84 | 20.45 |
| **Total** | **421.43** | **210.98** |

4. Accordingly, the annual fixed charges claimed by the petitioner for the period 2014-19 is as under:

*(₹ in lakh)*

| | 1.4.2014 to 5.6.2014 (3 units) | 6.6.2014 to 31.3.2015 (4 units) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Depreciation | 1696.07 | 10400.77 | 12844.23 | 13201.31 | 13535.77 | 13541.62 |
| Interest on Loan | 2284.09 | 13532.87 | 15613.85 | 14737.13 | 13699.39 | 12053.37 |
| Return on Equity | 2119.37 | 13099.92 | 16223.62 | 16780.86 | 17206.00 | 17213.44 |
| Interest on Working Capital | 191.65 | 1162.01 | 1431.48 | 1459.11 | 1481.24 | 1474.09 |

| | | | | | | |
|---|---|---|---|---|---|---|
| O & M Expenses | 927.73 | 5603.88 | 7295.09 | 7779.48 | 8296.04 | 8846.90 |
| **Total** | **7218.90** | **43799.45** | **53408.26** | **53957.89** | **54218.44** | **53129.42** |

5. The Petitioner has filed the additional information in compliance with the directions of Commission with copy to the Respondents. Replies to the Petition have been filed by the Respondents, UPPCL, BRPL and the discoms of Rajasthan. The Petitioner has filed its rejoinder to the said replies. The Commission after hearing the parties on 11.10.2018 reserved its order in the Petition. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to determine the tariff of the generating station for the period 2014-19 as stated in the subsequent paragraphs.

**Capital Cost**

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

7. The Techno-Economic Clearance (TEC) was accorded by the CEA on 12.11.2003 with a project cost of ₹2228.41 crore including IDC & FC of ₹221.80 crore at July, 2003 price level. The CCEA approval of the project was accorded on 9.11.2005 at an estimated cost of ₹2304.56 crore including IDC & FC of ₹203.42 crore at May, 2005 price level, with the completion schedule of 5 years (60 months) i.e November, 2010. Thereafter, MOP, GOI vide letter dated 9.10.2018 conveyed the approved of RCE of ₹2539.75 crore as completion cost of the Project.

8. The capital cost claimed by the petitioner for the period 2014-19 is as under:

| Sl No. | | 2014-15 | | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|---|
| | | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | | | | |
| 1. | Opening Capital Cost | 187148.51 | 253864.10 | 256819.40 | 261275.24 | 274614.66 | 274852.16 |
| 2. | Addition during the year / period | 0.00 | 2150.85 | 2027.97 | 9894.26 | 237.50 | 0.00 |
| 3. | Less: De-capitalisation during the year /period | 0.00 | 1728.63 | 84.67 | 0.00 | 0.00 | 0.00 |
| 4. | Less: Reversal during the year /period | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5. | Add: Discharges during year /period | 0.00 | 2533.08 | 2512.54 | 3445.16 | 0.00 | 0.00 |
| 6. | **Closing Capital cost** | **187148.51** | **256819.40** | **261275.24** | **274614.66** | **274852.16** | **274852.16** |

9. The unit-wise break-up of the capital cost allowed for the purpose of tariff for the period from 24.3.2014 to 31.3.2014 vide Commission's order dated 5.4.2019 in Petition No. 7/GT/2017 is as under:

*(₹ in lakh)*

| | 24.3.2014 to 29.3.2014 (Units I & II) | 30.3.2014 to 31.3.2014 (Unit-III) |
|---|---|---|
| Hard Cost | 99183.89 | 148699.08 |
| IDC | 20817.12 | 31287.20 |
| FC | 310.38 | 466.40 |
| Normative IDC | 8185.92 | 12287.66 |
| **Total** | **128497.32** | **192739.51** |
| Liability | 3923.22 | 5592.06 |
| **Capital cost allowed** | **124574.10** | **187147.46** |

**Interest During Construction (IDC)**

10. The petitioner has furnished the details of amount, the date of drawl, the rate of interest etc., in respect of the loans. Based on these, IDC has been calculated up to COD of the generating station as under:

*(₹ in lakh)*

| 1.4.2014 to 5.6.2014 | As on COD (6.6.2014) |
|---|---|
| 31287.20 | 42451.40 |

**Normative IDC**

11. In terms of clause (a) of Regulation 7 of the 2009 Tariff Regulations, the Normative IDC over and above the actual IDC has been worked out considering the quarterly debt-equity position corresponding to the actual cash expenditure. This has been allowed for the purpose of tariff as under:

*(₹ in lakh)*

| 1.4.2014 to 5.6.2014 | As on COD (6.6.2014) |
|---|---|
| 12287.66 | 16544.90 |

**Financial Charges**

12. The petitioner has claimed financial charges amounting to ₹620.76 lakh as on COD of the generating station (6.6.2014). The same has been considered for capital cost.

13. Based on the above, the capital cost allowed for the purpose of tariff from 1.4.2014 till COD of the generating station (6.6.2014) is as under:

*(₹in lakh)*

| | **1.4.2014 to 5.6.2014** | **As on COD (6.6.2014)** |
|---|---|---|
| Hard Cost | **148699.08** | **200236.75** |
| IDC | 31287.20 | 42451.40 |
| FC | 465.67 | 620.76 |
| Normative IDC | 12287.66 | 16544.90 |
| | **192739.51** | **259853.82** |
| Liability | 5592.06 | 5990.66 |
| **Capital cost allowed** | **187147.46** | **253863.16** |

**Additional Capital Expenditure**

14. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted upto 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-19.

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

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

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

*(ii) Works deferred for execution;*

*(iii) xxxxxxx*

*14 (2) xxxxxx*

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

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

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

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

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

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

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

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

*(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 obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower*

*strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and*

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

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

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

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

16. The year-wise breakup of the actual/projected additional capital expenditure (including discharge of liabilities and excluding un-discharged liabilities) claimed by the Petitioner is as under:

***(₹ in lakh)***

| **6.6.2014 to 31.3.2015** | **2015-16** | **2016-17** | **2017-18** | **2018-19** |
|---|---|---|---|---|
| 4683.93 | 4540.52 | 13339.42 | 237.50 | 0.00 |

17. The capital cost allowed as on COD of the generating station (6.6.2014) is ₹253863.16 lakh, which includes the Normative IDC of ₹16544.90 lakh. The capital cost for works within the original scope as on 6.6.2014 is ₹237318.26 lakh (253863.16-16544.90) whereas, the ceiling capital cost of the project is ₹253975 lakh (approved RCE). Accordingly, an amount of ₹16656.74 lakh (253975–237318.26) is available for consideration in respect to the balance works/assets under the original scope of work of the project. In view of this, we restrict the additional capital expenditure claimed by the Petitioner to ₹16656.74 lakh for assets/works under the original scope of the project. We now examine the claims

of the petitioner for additional capital expenditure during the respective years of the tariff period, based on prudence check, as under:

**(a) 2014-15**

18. The additional capital expenditure claimed by the Petitioner for the year is as under:

*(₹ in lakh)*

| Heads for Additional Capitalization | Amount claimed | |
|---|---|---|
| Assets/works under original scope within the cut-off date | (a1) Accrual basis | 2528.81 |
| | (b1) Un-discharged liabilities | 377.96 |
| | **(c1=a1-b1) Cash basis** | **2150.85** |
| Expenditure for efficient operation of the plant | (a2) Accrual basis | 0.00 |
| | (b2)Un-discharged liabilities | 0.00 |
| | **(c2=a2-b2) Cash basis** | **0.00** |
| Discharge of liabilities | **c3** | 2533.08 |
| Un-discharged Liability as on 31.3.2015 | **c4** | 3835.55 |
| **Total (c5)** | **(c5=c1+c2+c3)** | **4683.93** |

19. The petitioner has claimed an additional capital expenditure of ₹4683.93 lakh during 2014-15 which includes an amount of ₹2150.85 lakh towards assets/works within the original scope of work and within the cut-off date and an amount of ₹2533.08 lakh towards discharge of liabilities created upto 31.3.2013.

**Works/assets within the original scope of project**

20. The assets/works under the original scope of project broadly consists of land, civil works, HM works, balance E&M works, building works, roads, bridges and other works, plans and equipment's work and miscellaneous works which include the purchase of 40 kVA and 500 kVA DG set etc. It is observed that the additional capital expenditure of ₹2150.85 lakh claimed by the Petitioner in 2014-15 is mostly towards deferred works/liabilities under the original scope of work of the project and some expenditure towards capitalization of minor assets within the cut-off

date. Since the additional capital expenditure of ₹2150.85 lakh claimed is within the balance limit of the admitted completion cost of the project as on cut-off date i.e ₹16656.74 lakh as above, the capitalisation of expenditure of ₹2150.85 lakh towards works/assets under the original scope of the project in 2014-15 is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

**Discharge of liabilities**

21. The petitioner has further claimed expenditure of ₹2533.08 lakh towards the discharge of liabilities in respect of assets/works within the original scope of project in 2014-15. Since the expenditure claimed by the petitioner towards discharge of liabilities in 2014-15 is within the balance limit of admitted completion cost of the project as on cut-off date, the additional capital expenditure of ₹2533.08 lakh claimed by the Petitioner is allowed under this head in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

22. Accordingly, the total additional capital expenditure of ₹4683.93 lakh (2150.85 + 2533.08) is allowed in 2014-15. The balance limit of admitted completion cost of the project works out to be ₹11972.81 lakh (16656.74 - 4683.93).

**(b) 2015-16**

23. The additional capital expenditure claimed by the petitioner in 2015-16 is as under:

*(₹ in lakh)*

| Heads for additional capitalization | Amount claimed | |
|---|---|---|
| Assets/works under original scope within the cut-off date | (a1) Accrual basis | 4100.12 |
| | (b1)Un-discharged liabilities | 2119.77 |
| | **(c1=a1-b1) Cash basis** | **1980.35** |
| Expenditure for | (a2) Accrual Basis | 50.01 |

| | | |
|---|---|---|
| efficient operation of the plant | (b2) Un-discharged liabilities | 2.39 |
| | **(c2=a2-b2) Cash basis** | **47.62** |
| Discharge of liabilities | **c3** | **2512.54** |
| Un-discharged liabilities as on 31.3.2016 | **c4** | 445.16 |
| **Total (c5)** | (c5=c1+c2+c3) | **4540.51** |

24. The petitioner has claimed total additional capital expenditure of ₹4540.51 lakh in 2015-16 which includes an expenditure of ₹1980.35 lakh in respect of assets/works within the original scope of project and within the cut-off date and expenditure of ₹47.62 lakh for works other than within the original scope of project and expenditure of ₹ 2512.54 lakh for discharge of liabilities in 2015-16.

**Works/assets within the original scope of project**

25. The petitioner has claimed additional capital expenditure of ₹1980.35 lakh in 2015-16 for works/assets within the original scope of project and for the capitalization of minor assets within the cut-off date. Since the additional capital expenditure of ₹1980.35 lakh is within the balance limit of the admitted completion cost of the project as on cut-off date i.e. ₹11972.81 lakh, the claim of the petitioner for additional capitalisation of ₹1980.35 lakh in 2015-16 for works/assets within the original scope of project is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

**Discharge of liabilities**

26. The petitioner has further claimed expenditure of ₹2512.54 lakh towards the discharge of liabilities in respect of assets/works of assets/works within the original scope of project in 2015-16. Since the additional capital expenditure claimed by the petitioner for discharge of liabilities in 2015-16 is within the balance limit of admitted completion cost of the project as on cut-off date i.e.

₹11972.81 lakh, expenditure of ₹2512.54 lakh towards discharge of liabilities in 2015-16 is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

**Expenditure for efficient & successful operation of plant**

27. The petitioner has also claimed additional capital expenditure of ₹47.62 lakh for works/service towards efficient and successful operation of the plant. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

*(₹ in lakh)*

| Works/ Items | Amount claimed | Justification | Admissibility |
|---|---|---|---|
| Painting work at dam top parapet | 0.53 | Work essential for longevity of the structure [Regulation 14(3)(viii)] | **Not Allowed.** Such expenses of recurring nature shall be met from the O&M expenses |
| Protection of left bank & removal of boulder in front of TRT outfall | 47.09 | Work carried out at TRT outfall for safety of the outfall structure [Regulation 14(3)(viii)] | **Allowed.** Since the work is related to security & safety of operation of the plant |
| **Amount claimed** | **47.62** | | |
| **Amount allowed** | | | **47.09** |

28. Accordingly, out of the additional capital expenditure of ₹47.62 lakh claimed by the petitioner for works/assets other than within the original scope of project for the year 2015-16, only an expenditure of ₹47.09 lakh is allowed to be capitalised.

29. As such, a total additional capital expenditure of ₹4539.98 lakh is allowed in 2015-16. The balance limit of admitted completion cost of the project works out to be ₹7479.92 lakh (11972.81 - 4492.89).

**(c) 2016-17**

30. The additional capital expenditure claimed by the petitioner in 2016-17 is as under:

*(₹ in lakh)*

| Heads for additional capitalization | Amount claimed | |
|---|---|---|
| Assets/works under original scope within the cut-off date | (a1) Accrual basis | 9677.03 |
| | (b1)Un-discharged liabilities | 0.00 |
| | **(c1=a1-b1) Cash basis** | **9677.03** |
| Expenditure for efficient operation of the plant | (a2) Accrual basis | 217.24 |
| | (b2)Un-discharged liabilities | 0.00 |
| | **(c2=a2-b2) Cash basis** | **217.24** |
| Discharge of liabilities | **c3** | 3445.16 |
| Un-discharged liabilities as on 31.3.2017 | **c4** | 0.00 |
| **Total (c5)** | (c5=c1+c2+c3) | **13339.42** |

31. The petitioner has claimed total additional capital expenditure of ₹9894.26 lakh in 2016-17 which includes expenditure of ₹9677.03 lakh towards assets/works within the original scope of project and within the cutoff date, an expenditure of ₹217.24 lakh for works other than within the original scope of project and expenditure of ₹3445.16 lakh towards discharge of liabilities in 2016-17.

**Works/assets within the original scope of project**

32. The petitioner has claimed additional capital expenditure of ₹9677.03 lakh in 2016-17 for works/assets within the original scope of project and for capitalization of minor assets within the cut-off date. The additional capital expenditure of ₹9677.03 lakh claimed in 2016-17 is not within the balance admitted completion cost of the project as on cut-off date i.e. ₹7479.92 lakh. Hence, the claim for additional expenditure for works/assets within the original scope of project is restricted to ₹7479.92 lakh and is allowed in terms Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

**Discharge of liabilities**

33. The petitioner has further claimed expenditure of ₹3445.16 lakh for discharge of liabilities in 2016-17. Since the additional capital expenditure claimed by the Petitioner for discharge of liabilities in 2016-17 exceeds the admitted completion cost of the project as on cut-off date, we are not inclined to allow the claim of the petitioner under this head, except for an amount of ₹2.39 lakh towards un-discharged liability allowed in 2015-16 for assets/works towards efficient operation of the plant.

**Works/assets other than within the original scope of project**

34. The petitioner has also claimed additional capital expenditure of ₹217.24 lakh for works/service towards efficient and successful operation of plant. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

*(₹ in lakh)*

| Works/ Items | Amount claimed | Justification | Admissibility |
|---|---|---|---|
| Concrete work of Diversion Tunnel 2. | 109.50 | This tunnel was initially used as diversion tunnel. The tunnel is to be used as spillway tunnel during O&M stage | The petitioner has proposed to use the diversion tunnel as spillway tunnel during O&M stage. Since the asset/work will be useful for O&M of the plant, the expenditure **is allowed.** |
| Providing & fixing walkway platform & railings around the Stop log storage, Diversion & spillway tunnels, and ladders for DT gates and platform for Power studio. | 11.74 | Safety of manpower | Considering the fact that the expenditure is required for the safety of the plant and personnel, the expenditure **is allowed.** |
| Second stage concreting for Trash Rack Cleaning Machine(TRCM) | 3.00 | This is required for TRCM which is finally required for efficient operation of the plant. | Considering the fact that the asset is required for efficient operation of the plant, the expenditure **is allowed** |

| | | | |
|---|---|---|---|
| Concrete cladding in Main Access Tunnel (MAT) of Power House. | 90.00 | Fall of loose rock has been observed. Hence to ensure safe movement of man power and equipment. | Considering the fact that these works/assets are required for the safety of the project, the expenditure **is allowed.** |
| Purchase of CCTV | 3.00 | Security and surveillance of Admin block at Behali | Keeping in view the safety of project and surveillance required for the plant, the expenditure **is allowed.** |
| **Total amount claimed** | **217.24** | | |
| **Total amount allowed** | | | **217.24** |

35. Accordingly, the additional capital expenditure of ₹217.24 lakh is allowed in 2016-17 in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

36. Based on the above, total additional capital expenditure of ₹7699.55 lakh (7479.92+217.24+2.39) is allowed for works/assets within the original scope of project in 2016-17. The balance limit of admitted completion cost of the project is nil.

**(d) 2017-18**

37. The additional capital expenditure claimed by the petitioner in 2017-18 is as under:

***(₹ in lakh)***

| **Heads for additional capitalization** | **Amount claimed** | |
|---|---|---|
| Assets/works under original scope within the cut-off date | (a1) Accrual basis | 50.00 |
| | (b1) Un-discharged liabilities | 0.00 |
| | **(c1=a1-b1) Cash basis** | **50.00** |
| Expenditure for efficient operation of the plant | (a2) Accrual basis | 187.50 |
| | (b2)Un-discharged liabilities | 0.00 |
| | **(c2=a2-b2) Cash basis** | **187.50** |
| Discharge of liabilities | **c3** | 0.00 |
| Un-discharged liabilities as on 31.3.2017 | **c4** | 0.00 |
| **Total (c5)** | (c5=c1+c2+c3) | **237.50** |

38. The petitioner has claimed additional capital expenditure of ₹237.50 lakh in 2017-18 which includes expenditure of ₹50.00 lakh for assets/works within the original scope of project and beyond the cut-off date and expenditure for ₹187.50 lakh for works other than within the original scope of project.

**Works/assets within the original scope of project**

39. The petitioner has claimed additional capital expenditure of ₹50.00 lakh in 2017-18 for works/assets within the original scope of project but beyond the cut-off date. As the admitted completion cost has been capitalised in full till 2016-17, the claim for additional capital expenditure of ₹50.00 lakh in 2017-18 is not allowed.

**Works/assets other than within the original scope of project**

40. The petitioner has also claimed additional capital expenditure of ₹187.50 lakh for works/service towards efficient and successful operation of the plant. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

| **Works for efficient operation of the plant** | | | |
|---|---|---|---|
| **Works/ Items** | **Amount claimed** | **Justification** | **Admissibility** |
| Purchase of pump | 15.00 | Augmentation of pumping at different locations. | Since the asset is required for safe and efficient operation of the plant, the expenditure is **allowed** |
| Purchase of video wall for SCADA system | 20.00 | Present DLP based video walls are outdated | |
| Purchase of Pallet truck | 2.50 | For shifting handling of heavy items | The asset is of the nature of tools & tackles and capitalization of the same after the cut-off date is not permissible in terms of the 2014 Tariff Regulations. Hence, expenditure is **not allowed** |
| Purchase of Unit Auxiliary Transformer | 90.00 | For spare | Since the capitalization of spares after the cut-off date is not permissible in terms of the 2014 Tariff Regulations. Hence, expenditure is **not allowed** |
| Purchase of Station Auxiliary Transformer | 60.00 | | |
| **Total amount claimed** | **187.50** | | |
| **Total amount allowed** | | | **35.00** |

41. Accordingly, additional capital expenditure of ₹35.00 lakh as above is allowed in 2017-18.

**(e) 2018-19**

42. The petitioner has not claimed additional capital expenditure for the year 2018-19.

**De-capitalization**

43. Regulation 14(4) of the 2014 Tariff Regulations provides as under:

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

44. The petitioner, in per Form 9B(i), has claimed de-capitalization of the assets as under:

*(₹ in lakh)*

| 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|
| 1728.63 | 84.67 | 0.00 | 0.00 | 0.00 |

45. Since the assets are not in use, the claim of the petitioner for de-capitalisation of amounts is allowed. Accordingly, the year-wise details of de-capitalization are as under:

*(₹ in lakh)*

| 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|
| 1728.63 | 84.67 | 0.00 | 0.00 | 0.00 |

**Additional capital expenditure (Net) allowed**

46. Based on the above discussions, the net additional capital expenditure allowed are as under:

*(₹ in lakh)*

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Addition during the year / period | 0.00 | 2150.85 | 2027.44 | 7697.16 | 35.00 | 0.00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Less : De-capitalization during the year / period | 0.00 | 1728.63 | 84.67 | 0.00 | 0.00 | 0.00 |
| Add : Discharges during the year / period | 0.00 | 2533.08 | 2512.54 | 2.39 | 0.00 | 0.00 |
| **Additional Capital expenditure allowed** | **0.00** | **2955.30** | **4455.32** | **7699.55** | **35.00** | **0.00** |

## Capital Cost for 2014-19

47. Accordingly, the capital cost allowed for the purpose of tariff for 2014-19 is as under:

*(₹ in lakh)*

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Opening Capital Cost | 187147.46 | 253863.16 | 256818.45 | 261273.77 | 268973.32 | 269008.32 |
| Admitted additional capital expenditure | 0.00 | 2955.30 | 4455.32 | 7699.55 | 35.00 | 0.00 |
| **Capital Cost as on 31st March** | **187147.46** | **256818.45** | **261273.77** | **268973.32** | **269008.32** | **269008.32** |

## Debt-Equity Ratio

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

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

*Provided that:*

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

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

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

Accordingly, the debt equity ratio of 70:30 has been considered as per the above regulations.

## Return on Equity

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

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

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

*Provided that*

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

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

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

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

*v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues.*

*vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.*

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

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

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

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

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

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

51. In line with the above regulations, grossing up of base rate has been done with MAT Rate of the 2013-14. The petitioner shall furnish the effective tax rates with Tax Audit report for the period 2014-19 at the time of truing up exercise in terms of Regulation 8 of the 2014 Tariff Regulations. Accordingly, Return on Equity has been computed as under:

***(₹ in lakh)***

| | **1.4.2014 to 5.6.2014** | **6.6.2014 to 31.3.2015** | **2015-16** | **2016-17** | **2017-18** | **2018-19** |
|---|---|---|---|---|---|---|
| Opening Equity | 56144.24 | 76158.95 | 77045.54 | 78382.13 | 80692.00 | 80702.50 |
| Addition due to additional capitalization | 0.00 | 886.59 | 1336.59 | 2309.87 | 10.50 | 0.00 |
| Closing Equity | 56144.24 | 77045.54 | 78382.13 | 80692.00 | 80702.50 | 80702.50 |
| Average Equity | 56144.24 | 76602.24 | 77713.83 | 79537.06 | 80697.25 | 80702.50 |
| Return on Equity (Base Rate) | 16.500% | 16.500% | 16.500% | 16.500% | 16.500% | 16.500% |
| Tax rate for the year | 20.961% | 20.961% | 20.961% | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax ) | 20.876% | 20.876% | 20.876% | 20.876% | 20.876% | 20.876% |
| Return on Equity (Pre Tax) | **2119.35** | **13099.87** | **16223.54** | **16604.16** | **16846.36** | **16847.45** |

## Interest on loan

52. 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 up to the date of de-capitalization of such asset*

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

*(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered*

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

*(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such 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 refinancing.*

*(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."*

53. The salient features for computation of interest on loan is as under:

(a) The opening gross normative loan as on 1.4.2014 has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulations.

(b) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.

(c) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.

(d) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

54. Accordingly, interest on loan has been worked out as under:

(₹ in lakh)

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Gross Normative Loan | 131003.22 | 177704.21 | 179772.92 | 182891.64 | 188281.32 | 188305.82 |
| Cumulative Repayment up to Previous Year | 154.03 | 1850.09 | 12250.82 | 25094.98 | 38157.28 | 51410.12 |
| Net Loan-Opening | 130849.19 | 175854.12 | 167522.10 | 157796.66 | 150124.04 | 136895.70 |
| Repayment during the year | 1696.06 | 10400.73 | 12844.17 | 13062.30 | 13252.84 | 13253.70 |
| Addition due to Additional Capitalization | 0.00 | 2068.71 | 3118.72 | 5389.69 | 24.50 | 0.00 |
| Net Loan-Closing | 129153.13 | 167522.10 | 157796.66 | 150124.04 | 136895.70 | 123642.00 |
| Average Loan | 130001.16 | 171688.11 | 162659.38 | 153960.35 | 143509.87 | 130268.85 |
| Weighted Average Rate of Interest on Loan | 9.717% | 9.622% | 9.599% | 9.455% | 9.304% | 9.009% |
| Interest | **2284.09** | **13532.80** | **15613.78** | **14556.98** | **13351.53** | **11735.83** |

## Depreciation

55. 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 on1.4.2014 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-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."*

56. The weighted average rate of depreciation of 5.012%, 4.972%, 4.958% and 4.927% for the period from 1.4.2014 to 5.6.2014, 6.6.2014 to 31.3.2015, 2015-16, 2016-17, 2017-18 and 2018-19 has been calculated and considered in terms of the above regulations. Accordingly, depreciation has been calculated as under:

***(₹ in lakh)***

| | **1.4.2014 to 5.6.2014** | **6.6.2014 to 31.3.2015** | **2015-16** | **2016-17** | **2017-18** | **2018-19** |
|---|---|---|---|---|---|---|
| Opening Gross Block | 187147.46 | 253863.16 | 256818.45 | 261273.77 | 268973.32 | 269008.32 |
| Addition due to Projected Additional Capitalization | 0.00 | 2955.30 | 4455.32 | 7699.55 | 35.00 | 0.00 |
| Closing Gross Block | 187147.46 | 256818.45 | 261273.77 | 268973.32 | 269008.32 | 269008.32 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Average Gross Block | 187147.46 | 255340.80 | 259046.11 | 265123.54 | 268990.82 | 269008.32 |
| Rate of Depreciation | 5.012% | 4.972% | 4.958% | 4.927% | 4.927% | 4.927% |
| Depreciable Value | 168432.71 | 229806.72 | 233141.50 | 238611.19 | 242091.74 | 242107.49 |
| Remaining Depreciable Value | 168278.68 | 227956.64 | 220972.59 | 213606.22 | 204024.46 | 190787.38 |
| Depreciation | **1696.06** | **10400.73** | **12844.17** | **13062.30** | **13252.84** | **13253.70** |

## O&M expenses

57. Regulation 29 (3) (d) of the 2014 Tariff Regulations provides as under:

> *a. xxxxx*
> *b. xxxxx*
> *c. xxxx*
>
> *d. In case of the hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years."*

58. The Petitioner has claimed the following O&M expenses for the period 2014-19:

*(₹ in lakh)*

| 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|
| 5130.64 | 6840.86 | 7295.09 | 7779.48 | 8296.04 | 8846.90 |

59. The COD of the generating station is 6.6.2014. The project cost as on the cut-off date of the generating station (31.3.2017) is ₹268973.32 lakh. The petitioner has indicated an amount of ₹713.11 lakh towards Rehabilitation and Resettlement cost and the same is considered for calculation of the admissible O&M expenses. Based on the above, the admissible O&M expenses are worked out as under:

(₹ in lakh)

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Capital cost considered as on COD of Units/station (a) | 187147.46 | 268973.32* | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: pro-rata R&R expenses (b) | 534.83 | 713.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| Capital cost for the purpose of O&M (c) =(a)-(b) | 186612.63 | 268260.21 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annualized O&M (2.5% of (c) | 4665.32 | 6706.51 | 0.00 | 0.00 | 0.00 | 0.00 |
| No. of days | 66 | 299 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pro-rata O&M expenses for the no. of days | 843.59 | 5493.82 | 7151.82 | 7626.70 | 8133.11 | 8673.15 |

***Cut-off date cost= Capital cost as on 31.3.2017***

**Interest on Working Capital**

60. Sub-section (c) 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*
>
> *(c) Hydro generating station including pumped storage hydro electric generating Station and transmission system including communication system:*
>
> *(i) Receivables equivalent to two months of fixed cost;*
>
> *(ii) Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29; and*
> *(iii) Operation and maintenance expenses for one month."*

**Rate of interest on working capital**

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

> *"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."*

62. Accordingly, Interest on working capital has been calculated in terms of the above regulations as shown below:

(₹ in lakh)

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Maintenance Spares | 126.54 | 824.07 | 1072.77 | 1144.00 | 1219.97 | 1300.97 |
| O & M expenses | 70.30 | 457.82 | 595.98 | 635.56 | 677.76 | 722.76 |
| Receivables | 1188.35 | 7280.53 | 8876.14 | 8881.57 | 8838.88 | 8658.71 |
| Total | 1385.19 | 8562.42 | 10544.90 | 10661.13 | 10736.61 | 10682.44 |
| Interest Rate | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% |
| **Interest on Working Capital** | **187.00** | **1155.93** | **1423.56** | **1439.25** | **1449.44** | **1442.13** |

## Annual Fixed Charges

63. Based on the above, the annual fixed charges approved for the generating station is summarized as under:

(₹ in lakh)

| | 1.4.2014 to 5.6.2014 | 6.6.2014 to 31.3.2015 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---|---|---|---|---|---|
| Return on Equity | 2119.35 | 13099.87 | 16223.54 | 16604.16 | 16846.36 | 16847.45 |
| Interest on Loan | 2284.09 | 13532.80 | 15613.78 | 14556.98 | 13351.53 | 11735.83 |
| Depreciation | 1696.06 | 10400.73 | 12844.17 | 13062.30 | 13252.84 | 13253.70 |
| Interest on Working Capital | 187.00 | 1155.93 | 1423.56 | 1439.25 | 1449.44 | 1442.13 |
| O & M Expenses | 843.59 | 5493.82 | 7151.82 | 7626.70 | 8133.11 | 8673.15 |
| **Total** | **7130.10** | **43683.15** | **53256.87** | **53289.39** | **53033.28** | **51952.26** |

## Normative Annual Plant Availability Factor (NAPAF)

64. NAPAF of 68% as approved by Commission's order dated 5.4.2019 in Petition No. 7/GT/2017 has been allowed.

## Design Energy

65. The Design Energy of 1963.29 MUs as approved by the Commission vide its order dated 5.4.2019 in Petition No. 7/GT/2017, is allowed. Accordingly, the same has been considered for the generating station (month-wise) as detailed under:

| Months | 10 Days Monthly (10 days monthly) | Design Energy (MUs) |
|---|---|---|
| April | 1-10 | 28.88 |
| | 11-20 | 30.65 |
| | 21-30 | 43.86 |

| | | |
|---|---|---|
| May | 1-10 | 55.76 |
| | 11-20 | 61.43 |
| | 21-31 | 71.39 |
| June | 1-10 | 71.65 |
| | 11-20 | 104.65 |
| | 21-30 | 89.52 |
| July | 1-10 | 118.56 |
| | 11-20 | 118.56 |
| | 21-31 | 130.42 |
| August | 1-10 | 118.56 |
| | 11-20 | 118.56 |
| | 21-31 | 130.42 |
| September | 1-10 | 111.01 |
| | 11-20 | 81.86 |
| | 21-30 | 57.43 |
| October | 1-10 | 41.14 |
| | 11-20 | 33.31 |
| | 21-31 | 31.63 |
| November | 1-10 | 25.39 |
| | 11-20 | 23.62 |
| | 21-30 | 22.81 |
| December | 1-10 | 19.83 |
| | 11-20 | 19.14 |
| | 21-31 | 21.68 |
| January | 1-10 | 19.18 |
| | 11-20 | 18.7 |
| | 21-31 | 20.87 |
| February | 1-10 | 18.6 |
| | 11-20 | 18.51 |
| | 21-29 | 16.92 |
| March | 1-10 | 19.73 |
| | 11-20 | 22.04 |
| | 21-31 | 27.02 |
| **Total** | | **1963.29** |

**Application Fee and Publication Expenses**

66. The petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 6.1.2016 in Petition No.232/GT/2014, the petitioner shall be entitled to recover the filing fees for the period 2014-19 and also the expenses incurred on publication of notices *pro- rata* directly from the respondents, on production of documentary proof.

67. The annual fixed charges determined in this order are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

68. Petition No. 6/GT/2017 is disposed of in terms of the above.

| | |
|---|---|
| **sd/-** | **sd/-** |
| **(Dr M.K. Iyer)** | **(P.K. Pujari)** |
| **Member** | **Chairperson** |