CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 643/GT/2020

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

Date of Order: 17th August 2023

IN THE MATTER OF

Petition for truing-up of tariff for the period 2014-19 and determination of tariff for the period 2019-24 in respect of Sewa-II Power Station (120 MW).

AND

IN THE MATTER OF

NHPC Limited,
NHPC Office Complex, Sector-33,
Faridabad (Haryana)- 121003 **…Petitioner**

Vs

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

2. Haryana Power Purchase Center,
   Shakti Bhawan, Sector 6
   Panchkula 134109

3. Uttar Pradesh Power Corporation Limited,
   Shakti Bhawan, 14 Ashik Marg,
   Lucknow– 226001

4. Engineering Department, 1st Floor,
   UT Secretariat, Sector 9-D,
   Chandigarh - 160009

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

6. BSES Yamuna Power Limited,
   Shakti Kiran building,
   Karkardooma,
   Delhi – 110072

7. Tata Power Delhi Distribution Limited,
33 kV Sub-Station Building,
Hudson Lane, Kingsway Camp
New Delhi – 110009

8. Uttaranchal Power Corporation Limited
Urja Bhawan, Kumar House,
Dehradun– 248001

9. Jaipur Vidyut Vitaran Nigam Limited
Vidyut Bhawan, Janpath,
Jaipur– 302005

10. Ajmer Vidyut Vitaran Nigam Limited
Old Powerhouse, Hatthi Bhatta,
Jaipur Road,
Ajmer– 305001

11. Jodhpur Vidyut Vitaran Nigam Limited
New Powerhouse, Industrial Area,
Jodhpur– 342003 (Rajasthan)

12. Power Development Department,
New Secretariat,
Jammu – 180001 … **Respondents**

Parties Present:

Shri Rajiv Shankar Dwivedi, Advocate, NHPC
Shri Ajay Shrivas, NHPC
Shri Mohd. Faruque, NHPC
Shri Piyush Kumar, NHPC
Shri Sachin Dubey, Advocate, BRPL/BYPL
Ms. Megha Bajpeyi, BRPL

ORDER

This Petition has been filed by the Petitioner, NHPC Limited for truing-up of tariff of Sewa -II Hydro Electric Project (120 MW) (in short “the generating station”) for the period from 2014-19, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short “the 2014 Tariff Regulations”) and for determination of tariff of the generating station for the period from 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short "the 2019 Tariff Regulations"). The generating station located in the UT of Jammu & Kashmir having installed capacity of 120 MW, comprises of three units of 40 MW capacity. The COD of the units of the generating station are as under:

Units	COD
I	29.6.2010
III	2.7.2010
II / Generating Station	24.7.2010

2. The annual fixed charges of the generating station for the period 2014-19 was approved vide Commission's order dated 5.2.2020 in Petition No.322/GT/2018, based on the capital cost of Rs. 112981.73 lakh as on 1.4.2014, as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	112981.73	113954.50	114063.64	114035.23	114059.63
Admitted additional capitalization	972.77	109.14	(-)28.41	24.40	176.30
Closing Capital Cost	113954.50	114063.64	114035.23	114059.63	114235.93

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	7106.28	7140.16	7142.69	7142.56	7148.85
Interest on Loan	5484.18	4925.94	4032.71	3008.68	2593.62
Depreciation	5751.73	5775.71	5779.93	5775.83	5783.06
Interest on Working Capital	762.36	773.44	777.14	779.18	797.34
O&M Expenses	6157.56	6566.67	7002.96	7468.24	7964.43
Total	**25262.12**	**25181.92**	**24735.42**	**24174.49**	**24287.30**

Present Petition

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

> *"8. Truing up*
> *(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:*

Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”

4. Accordingly, in terms of the above regulations, the Petitioner has claimed the capital cost and annual fixed charges vide affidavit dated 22.9.2020 for the period 2014-19, as under:

Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	112981.73	114546.71	114787.60	114795.15	114828.45
Add: Additional during the year	1256.38	143.04	156.85	40.30	323.02
Less: De-capitalisation during the year	0.10	4.86*	176.16	7.34	7.15
Add: Discharges during the year	308.70	102.70	26.86	0.34	5.74
Closing capital cost	114546.71	114787.60	114795.15	114828.45	115150.05
Average capital cost	**113764.22**	**114667.15**	**114791.37**	**114811.80**	**114989.25**

**Deletion value is inclusive of Rs. 2.86 lakh not allowed by the Commission to be excluded for tariff order dated 5.2.2020 in Petition No. 322/GT/2018.*

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5766.74	5809.04	5817.53	5814.54	5825.70
Interest on Loan	5503.87	4967.99	4073.68	3042.06	2628.42
Return on Equity	7197.52	7272.19	7222.56	7272.41	7312.28
Interest on Working Capital	765.26	778.22	780.79	783.82	802.89
O&M Expenses	6157.56	6566.67	7002.96	7468.24	7964.43
Total	**25390.96**	**25394.11**	**24897.51**	**24381.08**	**24533.71**

5. The Respondent UPPCL, Rajasthan Urja Vikas Nigam Limited (RUVNL) on behalf of the Rajasthan Discoms and the Respondent BRPL, have filed their replies vide affidavits dated 25.1.2021, 5.2.2021 and 4.8.2022 respectively. The Petitioner has filed its rejoinders dated 29.6.2021 (UPPCL), 29.6.2021 (RUVNL) and 18.8.2022 (BRPL), to the above replies. The Petitioner has also submitted additional affidavits dated 29.6.2021 and 18.8.2022, after serving copy to the Respondents. This Petition

was heard through video conferencing on 23.8.2022, and the Commission after directing the Petitioner to file certain additional information, reserved its order in the matter. The Petitioner, has submitted the additional information vide affidavit dated 15.9.2022. Based on the submissions of the parties and documents available on record and after prudence check, we proceed for truing up the tariff of the generating station for the period 2014-19 along with determination of tariff for the period 2019-24, in this Petition, as stated in the subsequent paragraphs.

Capital Cost

6. Regulation 9(3) of the 2014 Tariff Regulations provides as under:

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

7. The Commission vide its order dated 5.2.2020 in Petition No. 322/GT/2018 had approved the opening capital cost of Rs. 112981.73 lakh, as on 1.4.2014. The Petitioner, in this petition, has claimed the opening capital cost of Rs. 112981.73 lakh as on 1.4.2014. Accordingly, the capital cost of Rs. 112981.73 lakh has been considered as the opening capital cost as on 1.4.2014, for the purpose of truing-up of tariff for the period 2014-19.

Additional Capital Expenditure

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

> *14. Additional Capitalisation and De-capitalisation:*
> *(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work,*

after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities recognized to be payable at a future date;
(ii) Works deferred for execution;
(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
(v) Change in law or compliance of any existing law:

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

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

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
(ii) Change in law or compliance of any existing law;
(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and
(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:
(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
(ii) Change in law or compliance of any existing law;
(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;
(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;
(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged 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-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage 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.

(4) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the 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."

9. The Commission in its order dated 5.2.2020 in Petition 322/GT/2018 has determined the capital cost and annual fixed charges for the period 2014-19, on the basis of actual capital expenditure based on the audited accounts for the period 2014-18 and on projection basis for the year 2018-19. The Commission had, however, restricted the additional capital expenditure to Rs. 617.58 lakh, considering the balance Revised Cost Estimate (RCE) limit of Rs. 617.58 lakh. However, the Petitioner

has submitted that the Commission has recognized an available RCE limit of Rs. 1714.93 lakh in order dated 5.2.2020 in Petition 281/GT/2018.

10. The submission of the Petitioner has been considered. It is noticed that the Commission in order dated 5.2.2020 has recognized the available RCE limit of Rs. 1714.93 lakh as on 31.3.2014. Accordingly, the additional capital expenditure disallowed in order dated 5.2.2020, on the basis of the unavailability of the RCE limit are being reconsidered, subject to above said limit. We now examine the actual additional capital expenditure claimed by the Petitioner for the period 2014-19 as under:

2014-15

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Items already approved by the Commission**				
1	Soiling metaling & black topping of 2 Km left bank road	64.42	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018.	It is observed that the additional capital expenditure under these heads was allowed vide order dated 5.2.2020. Accordingly, the additional capital expenditure claimed are **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	64.42
2	Adjustment of advance on receipt of utilization certificate from Divisional Forest officer, Billawar	5.28			5.28
3	Supply & Installation of Sewage treatment plant for Mashka & Sarthali	32.18			32.18
4	Shortcreting work at DAM (Difference amount of material issued to contractor)	0.50			0.50
5	Adjustment of adv. Against utilization certificate of Compensation of water mills located at Dharore & Fatehpur	0.71			0.71
6	Claim for compensation beyond	797.98	The Petitioner has submitted that the	The expenditure claimed is in respect of	797.98

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	the original completion of contract		Commission vide order dated 5.2.2020 in Petition 322/GT/2018 has considered the balance RCE limit of Rs. 617.58 lakh instead of Rs. 1714.93 lakh as considered in order dated 5.2.2020 in Petition 281/GT/2018 and hence allowed an amount of Rs. 514.67 lakh only.	works is within the original scope of work of the project and is within the ceiling limit of the RCE considered by the Commission (as in para 10 above). Hence, the claim of the Petitioner is **allowed.**	
7	Construction of 16 nos. B type Qtrs for CISF including wiring work & development of area around qtrs.	325.28	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018	It is observed that the additional capital expenditure claimed under these heads had been allowed vide order dated 5.2.2020. Accordingly, the additional capital expenditures claimed are **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	325.28
8	Connecting Dam & valve house with Powerhouse, through Telemetry & VSAT	2.75			2.75
9	Video conferencing facility and up gradation of CCTV between: i) Sewa-II Dam & powerhouse. ii) Sewa-II Power Station & CO Faridabad	7.33			7.33
10	Steel Cable Drums & Temporary shed for storage of cables	8.57			8.57
11	Sirens of various capacities, for fore-warning downstream local people along river banks about release of water from dam/ powerhouse	7.19			7.19
12	3 nos Microtek 5 KVA online UPS with 120 minutes battery backup (15 nos SMF batteries)	4.17			4.17
	Total A	**1256.26**			**1256.36**

11. Based on the above, the total additional capital expenditure of Rs. 1256.36 lakh is allowed in 2014-15.

2015-16

12. The details of the additional capital expenditure claimed under the provisions of Regulation 14 of the 2014 Tariff Regulations are examined below:

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Items already approved by the Commission**				
1	Connecting Dam & valve house with Powerhouse, through Telemetry & VSAT	2.81	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018.	It is observed that the additional capital expenditure under these heads had been allowed vide order dated 5.2.2020 under the original scope of work. Accordingly, these additional capital expenditures are **allowed.**	2.81
2	Steel Cable Drums & Temporary shed for storage of cables	2.55			2.55
3	Sirens of various capacities, for fore-warning downstream local people along river banks about release of water from dam/ powerhouse	4.61			4.61
4	411903/ 412503 Video conferencing facility and up gradation of CCTV between: i) Sewa-II Dam & powerhouse. ii) Sewa-II Power Station & CO Faridabad	7.79			7.79
5	Dams and Barrages WCST Re-imbursement to GIL-Srinivasa (Joint Venture), out of confirm liability	59.79			59.79
6	410802 36KV, 630A, Feeder Panel complete including VCB Trolley	19.28			19.28

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
7	411502 Mahindra Bolero SLX (AC)	7.69			7.69
8	411508 TATA LPT 1109 EX	9.48			9.48
9	Supply & Installation of Sewage treatment plant for Mashka & Sarthali	7.01	The Petitioner has submitted that the Commission vide order dated 5.2.2020 in Petition 322/GT/2018 has considered the balance available RCE limit as Rs.617.58 lakh instead of Rs.1714.93 lakh and hence has disallowed this additional capital expenditure.	The expenditures claimed are in respect of works within the original scope of work of the project and are within the ceiling limit of the RCE considered by the Commission (as in para 10 above). Hence, the claims of the Petitioner are **allowed.**	7.01
10	Adjustment of advance on receipt of utilization certificate	0.64			0.64
11	Adjustment of adv. Against utilization certificate of Compensation of water mills located at Dharore & Fatehpur	0.01			0.01
12	Channelizing of the drain water to prevent against scouring of power house road including aesthetic work	21.39			21.39
	Sub-Total A	**143.04**			**143.04**

13. Based on the above, the total additional capital expenditure of Rs. 143.04 lakh is allowed in 2015-16.

2016-17

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Items already approved by the Commission**				
1	Executive field hostel	136.22	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018.	It is observed that the additional capital expenditure claimed under these heads had been allowed vide order dated 5.2.2020 within the original scope of work. Accordingly, the additional capital expenditure claimed are **allowed.**	136.22
2	Connecting Dam & valve house with Powerhouse, through Telemetry & VSAT	4.77			4.77
3	411001/electrically operated 5-ton winch reversible	6.76			6.76

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	complete with motor(10/15hp),				
4	410301 Arbitration award in f/o Abdul Rashid Mallick for the work - Rock Cutting to adit-II road from RD-840-1435 mtrs.	9.10	The Petitioner has submitted that the Commission vide order dated 5.2.2020 in Petition 322/GT/2018 has considered the balance available RCE limit as Rs.617.58 lakh instead of Rs.1714.93 lakh and hence had disallowed this additional capital expenditure.	The expenditure claimed are for works within the original scope of work of the project, and is within the ceiling limit of the RCE considered by the Commission (as in para 10 above). Hence, the claims of the Petitioner are **allowed.** As the amount is un-discharged for land-right of use, the expenditure, the allowable amount on 'cash basis' is 'nil' for the period 2014-19 and same iwill be considered at the time of actual discharge of liability.	9.10
5	410121 Land- right of use	0.00			0.00
	Sub-Total A	**156.85**			**156.85**

14. Based on the above, the total additional capital expenditure of Rs. 156.85 lakh is allowed in 2016-17.

2017-18

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A. Items already approved by the Commission					
1	Supply and installation additional HSLS system for all three units	15.33	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018.	It is observed that the additional capital expenditure claimed under these heads had been allowed vide order dated 5.2.2020 under the original scope of work. Accordingly, the additional capital	15.33
2	410304/410404 Construction of permanent 06 nos.(six) office room in place of Temp. Office room including internal electrical works.	14.17			14.17

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
3	Steel Cable Drums & Temporary shed for storage of cables	5.75		expenditure claimed are **allowed.**	5.75
4	412503/CCTV System for Arms & Ammunition Building of CISF Sewa-II P.S. including installation charges	1.34			1.34
5	410714/ Operator Workstation (OWS) of SCADA System	3.71			3.71
	Sub Total A	**40.30**			**40.30**
B.	**Additional Capital Expenditure**				
6	Installation of 2 Strong Motion Accelerographs at Dam	0.00	As per recommendations of Dam Safety Team, 2 additional strong motion accelerographs are to be installed at Dam. Rooms for installation of Strong Motion Accelerographs have been constructed in 2017-18, while purchase & installation of SMAs is being done in 2018-19 at a cost of Rs.35.00 lakh	The Petitioner has not claimed any additional capital expenditure under this head during the period 2014-19, on cash basis. It is observed that the Commission vide its order dated 5.5.2020 had allowed projected additional capital expenditure for this asset in 2018-19. The Petitioner has submitted that the rooms for accelerographs have been constructed in 2017-18, but no actual payment has been made. Accordingly, the claim of the Petitioner is **allowed**. As the amount is un-discharged, the expenditure, allowable on 'cash basis' is 'nil' for the period 2014-19 and the same is considered at the time of actual discharge of liability.	0.00
	Sub-Total A	**40.30**			**40.30**

15. Based on the above, the total additional capital expenditure of Rs. 40.30 lakh is allowed in 2017-18.

2018-19

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A. Items already approved by the Commission					
1	Supply and installation additional HSLS system for all three units	0.64	The Petitioner has submitted that the additional capital expenditure under these heads have been approved by the Commission vide order dated 5.2.2020 in Petition 322/GT/2018	It is observed that the additional capital expenditure claimed under these heads had been allowed by the Commission vide order dated 5.2.2020 under the original scope of work. Accordingly, the additional capital expenditure claimed are **allowed.** .	0.64
2	Construction of Boundry Wall near VIP Guest House, Mashka	13.07			13.07
3	Construction of Boundry Wall at CISF Complex (KCT Camp) at Khairi	0.00			0.00
4	Fore warning system at Dam	4.66			4.66
5	Purchase of DG SET 250 KVA, make – Greaves power, model – D3V6TAG21	16.99			16.99
6	Purchase and installation of Strong Motion Accelerograph	22.23			22.23
7	Purchase and installation of Fire Alarm System for Panels at Power House, Power house offices and Administrative building	12.16			12.16
8	Drilling of 2 Nos Bore Well with submersible pump.	0.00			0.00
9	Dewatering pumps for emergency usage in Dam	2.78			2.78
10	Purchase of new MIV door-seal on replacement basis	0.00			0.00
11	Purchase & installation of CCTV Cameras for	7.37			7.37

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	Administrative Office Building & Colony				
	Sub-Total A	**79.90**			**79.90**
B.	**Items not projected earlier but incurred due to site specific requirements**				
1	EDP equipment's	9.36	As per the directives of Department of Telecommunication, Ministry of Communication, all Govt. Organisations should transit to IP6 (dual stack) based on network complexity and equipment/technological life cycle vide CO Circular No. NH/IT&C/1/9/216 dated 08.02.2017. Accordingly, power station replaced old IP4 switches with new IP6 based switches to comply the directives. Decapitalised value of old switches is available in form-9B(i)	Since these works are required for the successful and efficient operation of the plant, the claim is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	9.36
2	Capitalisation of the pay arrear due to regularisation pay scales of the below board level executives. (Pertaining to construction period of the project)	223.90	Pay arrear to the below Board Level Executives w.e.f 01-01-2007 was paid in pursuance of the regularisation of the pay Scales as per the order of MOP F.No. 2/1/2014–H. I(Pt) dated 29.01.2019. Out of total arrear released a sum of Rs.223.90 lakhs pertaining to before COD period of project. Hence the same amount has been capitalised as per accounting policy of NHPC and IND AS requirements.	It is noted that the Petitioner has filed Petition No. 343/MP/2019 seeking recovery of the impact of pay/ wage revision of its employees for the period from 1.1.2007 to 31.3.2019 and the Commission vide its Order dated 28.1.2023 had considered the impact of pay revision of its employees for the period from 1.1.2007 to 31.3.2019. In view of this, the additional capital expenditure claimed is **not allowed**.	0.00
3	Replacement of Air-conditioning system of Relay room and Control room of Powerhouse	8.28	Two nos. 17-ton Ductable Air-conditioners were installed at Power House for cooling of power house control room and	Considering the fact that the expenditure claimed is in the nature of minor items, this additional capital	0.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			adjoining relay room. The air - conditioners were in continuous use round the clock since commissioning of Power Station. With a period of time, both the Air-conditioners came under breakdown due to faulty compressors, fan motors and other components and therefore for proper cooling of the critical area of control room and relay room of Power House, it was necessary to replace the air-conditioners with new one. As the new air-conditioning systems were to be installed with existing ducting arrangement, which was designed for a particular air-flow and cooling/ heating requirement, the new air-conditioning system of similar capacity has been installed with the existing ducts in place of old equipment. As mentioned above, the panels installed at Relay room are of very critical nature for Power House, as various protection & monitoring equipment, numerical relays UPS etc. are installed, which require continuous proper cooling due to generation of heat. (Assumed deletion i.e. Gross value on COD is Rs. 5.19 lakhs from mother plant object ID 3301850001). The assumed deletion has been taken at sl no. 12 of form 9B(i).	expenditure claimed is **not allowed** in terms of the first proviso to Regulation 14(3) of the 2014 Tariff Regulations. The corresponding de-capitalization is also not allowed.	

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
4	Hydrogen (h2) sensor for battery room at powerhouse	1.15	The battery room of powerhouse is a highly sensitive and fire prone area of powerhouse, there was no hydrogen sensor and alarm system in battery room. Further, safety auditors have also recommended for installation of Hydrogen sensors and alarm system at battery room of powerhouse	The Petitioner has claimed the additional capital expenditure as per the recommendations of the safety auditors. As the expenditure is claimed towards the safety of the plant, the same is **allowed** under Regulation 14(3)(iii) of the 2014 Tariff Regulations.	1.15
5	Purchase of sirens for warning of flood	0.42	For warning of water level rise in the river nearby villages due to opening of DAM gates, installation of siren is essential to avoid loss of life and property. The already installed sirens are insufficient to cover the whole of affected area, therefore these sirens have been purchased.	Since this work is required for the successful and efficient operation of the plant, the claim is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.	0.42
	Sub Total (B)	**243.12**			**10.93**
	Grand Total (A+B)	**323.02**			**90.83**

16. Based on the above, the total additional capital expenditure of Rs. 90.83 lakh is allowed in 2018-19.

Discharge of liabilities

17. The Petitioner has claimed the following discharge of liabilities during the period 2014 –19:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
308.70	102.71	26.86	0.34	5.74

18. The liabilities considered by Commission, as on 31.3.2014, in Petition 281/ GT/ 2018 is Rs. 577.63 lakh. Further the liabilities pertaining to the additional capital expenditure admitted during the period 2014-19 is considered for the items that have

been allowed. Accordingly, the summary of discharge of liabilities as allowed is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Undischarged Liability	577.63	283.86	186.20	270.26	275.60
Liability Discharged during the year	308.70	102.71	26.86	0.34	5.74
Liability Reversed during the year	0.09	0.00	0.00	0.06	0.00
Liability Addition during the year	15.02	5.05	110.92	5.74	2.74
Closing Undischarged Liability	283.86	186.20	270.26	275.60	272.60

Exclusions (additions/deletions incurred, capitalized in books of accounts but not to be claimed for tariff purpose) as per reconciliation with books of account

19. The year-wise net expenditure on 'exclusions' as claimed by the Petitioner vide affidavit dated 15.9.2022, is as under:

(Rs. in lakh)

Sl No.		2014-15	2015-16	2016-17	2017-18	2018-19
1	Exclusions in Addition	154.70	111.68	66.42	53.39	30.97
2	Exclusions in Deletion	18.11	9.47	20.11	7.82	2.80

Exclusions in Additions (capitalized in books but not to be considered for tariff purpose)

20. The Petitioner has submitted that the expenditure, as stated in the table above, is incurred on procurement/ replacement of minor assets and capital spares, which are not allowed for the purpose of tariff, after the cut-off date of the generating station, in terms of the 2014 Tariff Regulations. The Petitioner has, accordingly, put these additions under exclusion category. As such, the exclusion of such positive entries is allowed and has no impact on tariff. Hence, the same is in order and allowed.

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

21. The Petitioner has de-capitalized amounts in books of accounts pertaining to minor assets such as computers, office equipment, furniture, ladders, fixed assets of

minor value less than Rs. 5000 etc., as these are not in use on account of their becoming unserviceable/obsolete and also deletion on account of inter-unit transfer of assets. It is observed that the same is in order and hence allowed.

De-capitalization

22. As regards de-capitalization, 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."*

23. The Petitioner has claimed de-capitalization against various assets part of capital cost. The Petitioner vide its affidavit dated 15.9.2022 has revised its claim for de-capitalization as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalization as per books	0.10	4.86	176.16	2.24	1.96
Assumed Deletions	0.00	0.00	0.00	4.15	5.19
Total Decapitalization	**0.10**	**4.86**	**176.16**	**6.39**	**7.15**

24. Based on the submissions of the Petitioner, the decapitalization of certain items allowed as replacement of additional capital expenditure during the period 2014-19 is allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Decapitalization	0.10	4.86	176.16	2.24	1.96

Assumed Deletion

25. As per consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is to be allowed for the purpose of tariff,

provided that the capitalization of the said asset is followed by the de-capitalization of the original value of the old asset. However, in certain cases, where decapitalization is affected in books during the following years, to the year of capitalization of new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as "Assumed deletion". Further, in absence of the gross value of the asset being de-capitalized, the same is calculated by de-escalating the gross value of new asset @ 5% per annum till the year of capitalization of the old asset.

26. It is observed that the Petitioner, while claiming certain additional capital expenditure in 2014-19, has not provided the actual de-capitalization value of old asset for some of the items which are being replaced. However, as discussed earlier, the additional capitalization on account of Air conditioning system of relay room and control room of Powerhouse is not allowed, and the corresponding de-capitalization claimed by the Petitioner under assumed deletion in 2018-19 is also not allowed.

27. The Petitioner has claimed the decapitalization of Rs. 0.40 lakh for Old Operator's Workstation (OWS) of SCADA system and Rs. 3.75 lakh for Temporary office room under 'assumed deletions' in 2017-18. In this regard the Commission vide its order dated 5.2.2020 in Petition No. 322/GT/2018 had observed as under:

> *'27. It is observed that Petitioner has claimed amounts of Rs. 14.17 lakh and Rs. 3.71 lakh for Construction of new office rooms and Capitalisation of Operator Work Station (OWS) of SCADA system respectively in 2017-18 on 'replacement basis'. The petitioner has however not provided the de-capitalization value of old assets which are replaced against the claim of Construction of new office rooms. Further, the Petitioner has indicated an amount of Rs. 2.28 lakh as the de-capitalization value of old assets which are being replaced against the claim of new Operator Work Station (OWS) of SCADA system. These amounts have not been considered as the assumed deletion value for old assets*

which is to be worked out as per the methodology adopted by the Commission. Based on the said methodology, the assumed deletions considered in 2017-18 are as under:

(Rs. in lakh)

Asset claimed in 2017-18	***Assumed deletion considered***
Construction of new office rooms at Sl. No. 2	*10.07*
Operator Work Station (OWS) of SCADA system at Sl. No. 5	*2.64*
Total assumed deletion considered	*12.71*

'

28. With regard to the decapitalization of Temporary office room, the Petitioner in Petition No. 322/GT/2018 had not provided the decapitalized value of old asset. Accordingly, the Commission in its order dated 5.2.2020 had considered the decapitalized value of the asset under 'Assumed Deletions'. However, the Petitioner in this Petition, has furnished the original value of the old asset as Rs. 3.75 lakh and has submitted that the asset is actually decapitalized during the years 2019-20 and 2020-21. Accordingly, the same has been considered.

29. With regard to decapitalization of Operator Work Station (OWS) of SCADA system, the Petitioner in Petition No. 322/GT/2018 had claimed an amount of Rs. 2.28 lakh as assumed deletion value. However, the Commission in its order dated 5.2.2020 had derived the assumed deletion value and considered the same as Rs. 2.64 lakh. In this Petition, the Petitioner has claimed original value of old asset as Rs. 0.40 lakh under 'Assumed Deletion' and submitted that the old asset is actually decapitalized during the years 2019-20 and 2020-21. On perusal of Form 9B(i) for the period 2019-24, it is noticed that the Petitioner has claimed decapitalization of a similar asset during the years 2020-21, 2022-23 and 2023-24 and the original value of the old asset provided for in all the years are different. Considering the fact that there are no details for the revised claim of Rs. 0.40 lakh in this Petition, as against Rs. 2.28 lakh claimed

in Petition No. 322/GT/2018, we consider the gross value of the old asset of Rs. 2.64 lakh as allowed in order dated 5.2.2020. This has also been worked out based on the above methodology. The Petitioner is however directed to reconcile and claim the deletion values at the time of truing of tariff for the period 2019-24. Accordingly, based on above, the decapitalization value of old asset during the year 2017-18 has been considered as under:

(Rs. in lakh)

S no	**Asset**	**Assumed deletion**
1	Temporary office room	3.75
2	Old operators' workstation (OWS) of SCADA system	2.64

30. Based on the above, the net additional capital expenditure allowed for the period 2014-19, is as under:

(Rs. in lakh)

		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
A	Additions allowed	1256.36	143.04	156.85	40.30	90.83
B	Decapitalization allowed	(-) 0.10	(-) 4.86	(-)176.16	(-)8.62	(-)1.96
C	Discharge of Liabilities	308.70	102.71	26.86	0.34	5.74
D	Net Additional Capitalization allowed (D=A+B+C)	1564.96	240.90	7.56	32.01	94.62

Capital cost allowed for the period 2014-19

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

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening capital cost (a)	112981.73	114546.69	114787.59	114795.14	114827.16
Net additional capital expenditure allowed during the year/ period (b)	1564.96	240.90	7.56	32.01	94.62
Closing Capital Cost (a)+(b)	**114546.69**	**114787.59**	**114795.14**	**114827.16**	**114921.78**

Debt Equity Ratio

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

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

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

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

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

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

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

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

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

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

33. Gross normative loan and equity amounting to Rs. 79087.21 lakh and Rs. 33894.52 lakh, respectively, as on 31.3.2014, as considered in order dated 5.2.2020, has been considered as the normative loan and equity as on 1.4.2014. The debt: equity ratio considered is 70:30, in terms of Regulation 19 of the 2014 Tariff Regulations, for the purpose of additional capitalization. De-capitalization of assets has been deducted from the corresponding loan as well as equity, taking into

consideration the debt equity ratio, applied in the year in which it was capitalized, as per Regulation 19 (4) of 2014 Tariff Regulations. The opening and closing debt and equity is as under:

(Rs in lakh)

	As on 1.4.2014		Additional Capitalization		De-capitalization		As on 31.3.2019	
	Amount	**(in %)**	**Amount**	**(in %)**	**Amount**	**(in %)**	**Amount**	**(in %)**
Debt	79087.21	70.00%	1492.22	70.00%	134.19	70.00%	80445.24	70.00%
Equity	33894.52	30.00%	639.52	30.00%	57.51	30.00%	34476.53	30.00%
Total	**112981.73**	**100.00%**	**2131.74**	**100.00%**	**191.70**	**100.00%**	**114921.78**	**100.00%**

Return on Equity

34. 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."*

35. 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."

36. Accordingly, the base rate of Return on Equity (ROE) has been grossed up, based on the MAT rate of the Petitioner, for the period 2014-19. Hence, in terms of the above regulations, ROE has been computed as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity **(A)**	33894.52	34364.01	34436.28	34438.54	34448.15
Addition of Equity due to additional capital expenditure **(B)**	469.49	72.27	2.27	9.60	28.39
Normative Equity- Closing **(C)** =(A) + (B)	34364.01	34436.28	34438.54	34448.15	34476.53
Average Equity (**D**)=(A+C)/2	34129.26	34400.14	34437.41	34443.35	34462.34
Base Rate (%) **(E)**	16.500%	16.500%	16.500%	16.500%	16.500%
Effective Tax Rate (%) **(F)**	20.961%	21.342%	21.342%	21.342%	21.549%
Effective ROE Rate (%) **(G)**	20.876%	20.977%	20.977%	20.977%	21.032%
Return on Equity (H)= (G)*(D)	**7124.83**	**7216.12**	**7223.94**	**7225.18**	**7248.12**

Interest on Loan

37. 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 Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

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

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

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

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

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

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

38. Interest on loan has been computed as under:

i) The gross normative loan amounting to Rs. 79087.21 lakh as on 31.3.2014, as considered in order dated 5.2.2020 in Petition No. 322/GT/2018, has been considered as on 1.4.2014.

ii) Cumulative repayment amounting to Rs. 20909.55 lakh as on 31.3.2014, as considered in order dated 5.2.2020 in Petition No. 322/GT/2018, has been considered as on 1.4.2014.

iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs. 58177.66 lakh.

iv) Addition to normative loan on account of additional capital expenditure approved above have been considered.

v) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 9.856% in 2014-15, 9.801% in 2015-16, 9.061% in 2016-17, 7.769% in 2017-18 and 7.855% in 2018-19. The same has been considered for tariff.

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

vii) Interest on loan has been worked out as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan **(A)**	79087.21	80182.68	80351.31	80356.60	80379.01
Cumulative repayment of loan upto previous year **(B)**	20909.55	26674.54	32483.42	38244.67	44057.17
Net Loan Opening **C**= (A-B)	58177.66	53508.14	47867.89	42111.93	36321.84
Addition due to additional capital expenditure **(D)**	1095.47	168.63	5.29	22.41	66.23
Repayment of loan during the year **(E)**	5765.01	5810.14	5815.52	5815.59	5820.60
Less: Repayment adjustment on account of de-capitalization **(F)**	0.02	1.25	54.27	3.09	0.80
Net Repayment of loan during the year (**G**=E-F)	5764.99	5808.89	5761.25	5812.50	5819.80
Net Loan Closing (**H**= C+D-G)	53508.14	47867.89	42111.93	36321.84	30568.27
Average Loan (**I**= (C+H)/2)	55842.90	50688.01	44989.91	39216.88	33445.05
Weighted Average Rate of Interest of loan **(J)**	9.856%	9.801%	9.061%	7.769%	7.855%
Interest on Loan (K= I*J)	**5503.96**	**4968.17**	**4076.40**	**3046.63**	**2627.07**

Depreciation

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

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

computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

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

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:
Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

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

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.
(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

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

40. The COD of the generating station is 24.7.2010. Therefore, the generating station has not completed 12 years of operation, as on 1.4.2014. Accordingly, depreciation has been computed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block (A)	112981.73	114546.69	114787.59	114795.14	114827.16
Net Additional capital expenditure during 2014-19 (B)	1564.96	240.90	7.56	32.01	94.62
Closing gross block (C=A+B)	114546.69	114787.59	114795.14	114827.16	114921.78
Average gross block (D)=(A+C)/2	113764.21	114667.14	114791.37	114811.15	114874.47
Value of Free Hold Land	181.73	181.73	181.73	181.73	181.73
Depreciable Value (E= (D-Land value) *90%))	102224.23	103036.87	103148.67	103166.48	103223.46
Remaining Depreciable Value at the beginning of the year (F=E-Cum Dep at 'L' at the end of previous year)	81314.68	76362.33	70665.25	64921.81	59166.29
Rate of Depreciation (G)	5.067%	5.067%	5.066%	5.065%	5.067%
Balance useful Life (H)	31.31	30.31	29.31	28.31	27.31
Depreciation (I=D*G)	**5765.01**	**5810.14**	**5815.52**	**5815.59**	**5820.60**
Cumulative Depreciation at the end of the year (J=I+ Cum Dep at 'L' at the end of previous year)	26674.56	32484.68	38298.94	44060.26	49877.78
Less: Depreciation adjustment on account of de-capitalization (K)	0.02	1.25	54.27	3.09	0.80
Cumulative Depreciation at the end of the year (L)	**26674.54**	**32483.42**	**38244.67**	**44057.17**	**49876.98**

**Cumulative Depreciation as on 31.3.2014 is Rs.20909.55 lakh*

Operation & Maintenance Expenses

41. Regulation 29(3)(a) of the 2014 Tariff Regulations, provides as under:

> *"29. Operation and Maintenance Expenses: (a) Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 01.04.2014:*

(Rs. in lakh)

Sl. No.	*Name of Station*	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*2018-19*
A. NHPC						
12	*Sewa II*	*6157.56*	*6566.67*	*7002.96*	*7468.24*	*7964.43*

42. In terms of the above Regulations, the generating station is in operation for three or more years, as on 1.4.2014 and the above-mentioned expenses were allowed vide order dated 5.2.2020. The Petitioner has claimed O&M expenses for the period

2014-19, in terms of Regulation 29(3)(a) of the 2014 Tariff Regulations and the same is allowed.

Capital Spares

43. The Petitioner has not claimed any capital spares as part of additional O&M expenses on consumption basis in the period 2014-19.

Additional O&M Expenses

Impact of wage revision

44. The Petitioner has submitted that it has filed Petition No. 226/MP/2019 claiming the recovery of impact of wage revision of its employees, deputed employees of KV staff/ DAV and Central Industrial Security Force (CISF) in respect of this generating station for the period from 1.1.2016 to 31.3.2019. It is observed that the additional O&M claimed in respect of the generating station during the period 1.1.2016 to 31.3.2019, has been dealt with and disposed of vide order dated 10.11.2022 in Petition No. 226/MP/2019. Hence, the same has not been considered in this order.

Goods & Services Tax

45. The Petitioner has also claimed reimbursement of additional tax paid due to implementation of GST in respect of generating station as additional O&M expenses and for this purpose, it has requested for relaxation of the provisions of Regulation 29(3) in exercise of the powers vested under Regulation 54 and Regulation 55 of the 2014 Tariff Regulations. The Petitioner has further submitted that the implementation of GST is a “Change in law" event and the impact of the same should be passed through in tariff. As such, the tax paid in O&M expenditure of plants (service portion) is claimed over and above the O&M expenses of the respective power stations. The

Petitioner has submitted that it had filed Petition No. 133/MP/2019, which was disposed of by the Commission vide its order dated 22.8.2019, granting liberty to the Petitioner to raise the claim for reimbursement of additional tax on O&M expenses due to implementation of GST Act, 2017 along with the truing up petition for the 2014-19 tariff period. The additional impact of GST in 2017-18 (1.7.2017 to 31.3.2018) and 2018-19 as submitted by the Petitioner, duly certified by statutory auditors, are as under:

Additional Impact of GST on O&M Expenses (in Rs.)			
2017-18	**2018-19 (1.4.18 to 31.12.18)**	**2018-19 (1.1.19 to 31.3.19)**	**Total**
15710337	17081855	4623110	37415302

46. The matter has been considered. It is evident from the submissions of the Petitioner and the documents on record, that in terms of the provisions of J&K General Sales Tax Act, 1962 and the Rules framed thereunder, Security Services were not falling in the definition of ‘goods’ or ‘services’, as defined in Section 2(h) of the said Act and therefore, the same were not eligible to any tax i.e. WCT under J&K General Sales Tax Act, 1962 or Service Tax in the State of J&K in pre-GST Regime. However, with the introduction of GST in J&K w.e.f. 8.7.2017, Security services are being subjected to GST @18%. It can, therefore, be concluded that due to the implementation of GST on Security services, the Petitioner has been obligated to pay GST on Security services for this generating station. The breakup of GST is shown under:

Additional Impact of GST on O&M Expenses *(Rs. in lakh)*				
	2017-18	**2018-19 (1.4.18 to 31.12.18)**	**2018-19 (1.1.19 to 31.3.19)**	**Total**
Total Impact of GST	157.10	170.82	46.23	**374.15**
Impact of GST allowed on Security Services	113.25	114.68	30.04	**257.98**

47. Accordingly, the impact of GST on Security services is allowed.

Interest on Working Capital

48. 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."*

Working Capital for Receivables

49. The Receivable component of working capital has been worked out based on two months of fixed cost as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4219.15	4223.01	4149.94	4076.34	4102.37

Working Capital for Maintenance Spares

50. Maintenance spares @15% of O&M expenses are worked out and allowed as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
923.63	985.00	1050.44	1137.22	1216.37

Working capital for O&M Expenses

51. O&M expenses for 1 month for the purpose of working capital are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
513.13	547.22	583.58	631.79	675.76

Rate of Interest on Working Capital

52. 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."*

53. Accordingly, interest on working capital is worked out and allowed as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Working capital for Maintenance Spares (15% of operation and maintenance expense)	923.63	985.00	1050.44	1137.22	1216.37
Working capital for Receivables (two months of fixed cost)	4219.15	4223.01	4149.94	4076.34	4102.37
Working capital for O&M Expenses (one month of O&M Expenses)	513.13	547.22	583.58	631.79	675.76
Total working capital	**5655.91**	**5755.23**	**5783.97**	**5845.35**	**5994.50**
Rate of Working Capital (%)	13.500%	13.500%	13.500%	13.500%	13.500%
Interest on Working Capital	**763.55**	**776.96**	**780.84**	**789.12**	**809.26**

<u>Annual Fixed Charges for the period 2014-19</u>

54. Based on the above, the annual fixed charges approved for the generating station for the period 2014-19 is summarized as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	5765.01	5810.14	5815.52	5815.59	5820.60
Interest on Loan	5503.96	4968.17	4076.40	3046.63	2627.07
Return on Equity	7124.83	7216.12	7223.94	7225.18	7248.12
Interest on Working Capital	763.55	776.96	780.84	789.12	809.26
O&M Expenses	6157.56	6566.67	7002.96	7581.49*	8109.16*
Total	**25314.90**	**25338.05**	**24899.65**	**24458.02**	**24614.21**

*Includes Impact of GST (b) *Note: (1) All figures are on annualized basis. (2) 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.*

55. The difference between the annual fixed charges recovered by the Petitioner in terms of order dated 5.2.2020 in Petition No. 322/GT/2018 and the annual fixed

charges determined by this order, shall be adjusted in terms of the provisions of Regulation 8(13) of the 2014 Tariff Regulations.

Normative Annual Plant Availability Factor (NAPAF)

56. Clause (4) of Regulation 37 of the 2014 Tariff Regulations provides for NAPAF of 85% for the generating station. Accordingly, NAPAF of 85% is considered for this generating station.

Design Energy (DE)

57. The Commission in order dated 5.2.2020 in Petition No.322/GT/2018 had considered the annual DE of 533.53 million units for this generating station. Accordingly, the same has been considered for this generating station for the period 2014-19 as per month-wise details as under:

Month	Design Energy (MUs)
April	55.93
May	39.01
June	81.92
July	76.69
August	84.82
September	40.90
October	21.36
November	14.66
December	11.70
January	9.72
February	22.61
March	74.21
Total	**533.53**

Summary

58. The annual fixed charges allowed vide order dated 5.2.2020 and this order is summarized below:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Annual fixed charges allowed vide order dated 5.2.2020 in Petition No. 322/GT/2018	25262.12	25181.92	24735.42	24174.49	24287.30
Annual fixed charges allowed in this order	**25314.90**	**25338.05**	**24899.65**	**24458.02**	**24614.21**

DETERMINATION OF TARIFF FOR THE PERIOD 2019-24

59. The Petitioner, in this petition, has also sought the determination of tariff of the generating station for the period 2019-24, in terms of the provisions of the 2019 Tariff Regulations. Accordingly, the annual fixed charges claimed by the Petitioner for the period 2019-24 is as under:

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	5835.68	5838.74	5843.07	5849.63	1130.32
Interest on Loan	2281.60	1905.44	1375.30	843.18	730.86
Return on Equity	6906.87	6909.70	6914.16	6921.85	6933.23
Interest on WC	625.60	638.81	650.61	663.40	611.39
O&M Expenses	8192.14	8582.66	8991.80	9420.44	9869.51
Total	**23841.89**	**23875.36**	**23774.94**	**23698.50**	**19275.31**

Capital Cost

60. Clause (1) of Regulation 19 of the 2019 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. However, capital cost for an existing project is governed as per clause (3) of Regulation 19 of the 2019 Tariff Regulations, which provides as under:

> *"The Capital cost of an existing project shall include the following:*
>
> *(a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
>
> *(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*

(c) Capital expenditure on account of renovation and modernization as admitted by this Commission in accordance with these regulations;

(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and

(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries…."

61. The Petitioner vide Form-1(i) of the petition, has claimed capital cost as under:

(Rs. in lakh)

		2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
A	Opening Capital Cost	115150.05	115165.56	115270.71	115336.32	115529.73
B	Addition during the year / Period	12.00	135.00	137.00	321.00	300.00
C	De-capitalisation during the year/period	-	29.86	71.39	127.58	129.17
D	Discharges during the year	3.51	-	-	-	-
E	Closing Capital Cost (A+B-C+D)	115165.56	115270.71	115336.32	115529.73	115700.57

62. The Commission in this order had allowed the closing capital cost of Rs. 114921.78 lakh, as on 31.3.2019. Accordingly, in terms of Regulation 19 of the 2019 Tariff Regulations, the capital cost of Rs. 114921.78 lakh, as on 31.3.2019, has been considered as the opening capital cost, as on 1.4.2019, for the purpose of determination of tariff for the period 2019-24.

Additional Capital Expenditure

63. Clause (2) of Regulation 9 of the 2019 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional

capital expenditure for the respective years of the period 2019-24 along with the true up for the period 2014-19 in accordance with the 2014 Tariff Regulations.

64. Regulation 25(1) of the 2019 Tariff Regulations provides as under:

"25. Additional Capitalization within the original scope and after the cut-off date:

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

(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;

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

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

(d) Liability for works executed prior to the cut-off date;

(e) Force Majeure events;

(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and

(g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

65. Regulation 26 of the 2019 Tariff Regulations provides as under:

26. Additional Capitalization beyond the original scope

(1) 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 beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

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

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernization (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

(2) 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 with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalized.

66. The Petitioner has submitted that the projected additional capital expenditure has been claimed under various provisions of Regulation 25 and Regulation 26 of the 2019 Tariff Regulations. Based on this, the details of additional capital expenditure claimed by the Petitioner are as under:

(Rs. in lakh)

2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
12.00	254.00	92.00	247.00	300.00

67. We examine the additional capital expenditure claimed by the Petitioner, as stated in the subsequent paragraphs:

<u>2019-20</u>

(Rs. in lakh)

S. No	**Details of the claim**	**Amount claimed**	**Justification submitted by the Petitioner**	**Remarks on admissibility**	**Amount Allowed**
A.	**Allowed by Commission in the period 2014-19**				
1	NIL				
	Sub Total (A)	**0.00**			**0.00**
B.	**Replacement of Assets deployed under the original scope of the existing project after cut-off date (Regulation 25)**				
1	**NIL**				
	Sub-Total (B)	**0.00**			**0.00**
C.	**Additional Capitalization beyond the original scope after cut-off date (Regulation 26)**				
1	Supply, Installation, testing &	12.00	At present, there are 2 electrically operated	The Petitioner has claimed the additional	12.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	commissioning of Diesel Engine Operated Fire Fighting Pump		firefighting pumps at Sewa-II Power Station, which are used to fill the firefighting tank. During review of fire-safety aspects of Power Station, it has been observed that electricity outage may occur in case of fire incidents and in this situation, the installed electrically operated pumps cannot be run and there will not be any source to fill the Fire tank located uphill. Considering the above critical situation and to save the machinery and manpower of Power station in case of emergency, presence of stand-by diesel engine operated firefighting pump is essential as a backup system. Claimed under Regulation 26(1)(d) of 2019 Tariff Regulations.	capital expenditure under Regulation 26(1)(d) of the 2019 Tariff Regulations. Further, the Petitioner has furnished the Fire and safety audit report in support of its claim. Accordingly, the projected additional capital expenditure claimed is **allowed.**	
	Sub Total (C)	12.00			**12.00**
	Grand Total (A+B+C)	12.00			**12.00**

68. In view of the above, the total additional capital expenditure allowed under original scope, change in law and other than original scope of work is Rs.0.00, Rs.0.00 and Rs 12.00 lakh, respectively.

2020-21

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Allowed by Commission in the period 2014-19**				
1	NIL				
	Sub Total (A)	**0.00**			**0.00**
B.	**Replacement of Assets deployed under the original scope of the existing project after cut-off date (Regulation 25)**				
1	Replacement of Windows XP Based	119.00	Sewa-II Power Station is a SCADA Based Power	Considering the submissions of the	119.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	SCADA Workstations/ Servers of powerhouse,		Plant, commissioned in 2010. Then, BHEL had supplied Windows XP Based SCADA Workstations/ Servers (16 Nos.). Due to round the clock running in last 10 years, these Workstations/ Servers have completed their life and need replacement in phased manner for smooth running of the Power Plant. Further, since Windows XP has become obsolete, so the replacement is to be done by Windows 10 or latest available OS based SCADA Workstations/ Servers. 3 nos. workstation were already claimed during 2017-18, the expenditure is not related previous purchase. SCADA System of Powerhouse consisting of 16 work stations are installed. Out of 16, 3 no's were already replaced during 2017-18. Remaining 13 workstations are planned to purchase in phase manner, 5 nos. in 2020-21, 2 nos. in 2022-23 and remaining 6 nos. in 2023-24. The assumed decapitalised value of old asset has been shown at Sl No. 1 in form 9(B)(i) during 2020-21. Claimed under Regulation 25(2)(c) of 2019 Tariff Regulations.	Petitioner and keeping in view that the expenditure is on account of replacement of asset /work due to obsolescence of technology, the claim of the Petitioner is **allowed** under Regulation 25(2)(c) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	
2	Replacement of Multi-purpose compact loader cum excavator, with rock breaker arrangement.	36.00	The various important structures of Sewa-II Power Station are widely spread and located in a radius of 40 K.M. Further, these structures are connected by hilly roads	It is noticed that the expenditure at sl. No. 2 & 3 are claimed primarily towards the replacement of old items, which form part of the original scope	36.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			which are blocked frequently due to landslides, during rains, snowfall as well as in adverse weather conditions. Hence for cleaning of roads and other works at dam-site area, including stilling basin area, multi-purpose compact loader cum excavator, with rock breaker arrangement (Tyre Mounted), is required. One no. Loader cum excavator available at Power Station is of 2002 model and has completed its life period. As such the old equipment is to be replaced with new one. The above equipment is part of approved sanctioned strength of equipment of Power station. The assumed decapitalised value of has been shown at Sl No.2 in form 9(B)(i) during 2020-21. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.	of works. Accordingly, the claims are **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	
3	Replacement of 220V Battery Bank, used for Control & Monitoring System of Powerhouse	55.00	In Sewa-II Power Station, 2 Nos. 220V battery-banks are installed for Control & Monitoring System. The battery-banks are installed since commissioning of Power station and have exhausted their life. The battery banks are in continuous use since pre-commissioning stage of Powerhouse. Technical inspection team constituted by O&M Div. Corporate office had visited the site in Feb-2020 and pointed out in their report that most of		55.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			batteries of Battery Bank are in bulging condition Therefore, to ensure uninterrupted DC supply for operation of the generating units replacement of batteries of both battery banks have been Planned. Out of two battery banks one is replaced during 2020-21 and second is proposed during 2021-22. The assumed decapitalised value has been shown at Sl No.04 in form 9(B)(i) during 2020-21. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.		
	Sub-Total (b	**210.00**			**210.00**
C.	**Additional Capitalization beyond the original scope after cut-off date (Regulation 26)**				
1	Construction of one no Bullet proof watch tower and two nos Bullet proof morchas for CISF	22.00	A security meeting for all the J&K projects was held at MOP in which it is decided to take various security measures including providing one no. bullet proof tower and two nos. bullet proof morchas to the security personnel at projects. Therefore, for compliance of security norms as intimated by CISF HQ/ Security-Audit Team, Construction of bullet proof morchas is essential. Claimed under Regulation 26(1)(d) of 2019 Tariff Regulations.	The Petitioner has claimed the additional capital expenditure of these assets (sl. 1&2) under Regulation 26(1)(d) of the 2019 Tariff Regulations. The Petitioner has also submitted necessary documents to substantiate its claim. Accordingly, the projected additional capital expenditure claimed are **allowed.**	22.00
2	Raising of boundary wall at CISF Complex, Sarthali	22.00	Raising of Boundary wall height by approximately 2-3 feet around CISF Complex is required as intimated by CISF HQ/ Security-Audit Team for compliance of security norms. Claimed under Regulation 26(1)(d) of 2019 Tariff Regulations.		22.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	Sub Total (C)	44.00			**44.00**
	Grand Total (A+B+C)	**254.00**			**254.00**

69. In view of the above, the total additional capital expenditure allowed under original scope and other than original scope of work is Rs 210.00 lakh and Rs 44.00 lakh, respectively.

2021-22

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Allowed by Commission in the period 2014-19**				
1	NIL				
	Sub Total (A)	**0.00**			**0.00**
B.	**Replacement of Assets deployed under the original scope of the existing project after cut-off date (Regulation 25)**				
1	Replacement of 220V Battery Bank, used for Control & Monitoring System of Powerhouse	22.00	In Sewa-II Power Station, 2 Nos. 220V battery-banks are installed for Control & Monitoring System. The battery-banks are installed since commissioning of Power station and have exhausted their life. The battery banks are in continuous use since pre-commissioning stage of Powerhouse. Technical inspection team constituted by O&M Div. Corporate office had visited the site in Feb-2020 and pointed out in their report that most of batteries of Battery Bank are in bulging condition Therefore, to ensure uninterrupted DC supply for operation of the generating units replacement of batteries of both battery banks have been Planned. Out of two battery banks one is replaced during 2020-21 and second is proposed	Considering the fact that the expenditure claimed during 2021-22 is towards the replacement of old items, which form part of the original scope of works, the claim of the Petitioner is **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	22.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			during 2021-22. The assumed decapitalised value has been shown at Sl No. 4 in form 9(B)(i) during 2021-22. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.		
2	Replacement of GPS Based Time Synchronising Panel for control and monitoring system, with compatible slave clocks	10.00	Existing system supplied by M/s BHEL with mother plant and it has completed its useful life. Installed GPS system is giving frequent problems and errors due to which the services of GPS time is hampering. Service engineer of OEM was called repeatedly in 2016, 2017, 2019 to carry out the correction / repair work of GPS. Some parts were replaced by the service engineer. Keeping in view the repeatedly repair work of GPS system it was decided to replace the existing GPS. As per IEGC 2010 rules, the GPS time synchronising system is very vital and needs to be available round the clock without fail for SCADA system / Numerical Protection relays etc. Hence, replacement of this system is essential and accordingly proposed. The assumed decapitalised value has been shown at Sl No. 2 in form 9(B)(i) during 2021-22. Claimed under Regulation 25(2)(c) of 2019 Tariff Regulations.	Considering the fact that the expenditure claimed are on account of replacement of asset /work due to obsolescence of technology, the claims (Sl no. 2 & 3) of the Petitioner are **allowed** under Regulation 25(2)(c) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	10.00
3	Acquisition of Land for damaged portion of access road to Adit -II	50.00	The Adit-II tunnel of Sewa-II Power Station is used for access to the Head Race Tunnel for inspection and		50.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
	for construction of alternate road.		repair purpose. At present, a portion of connecting road to Adit -II is badly damaged and eroded due rocks-slope-failure & heavy land-slides. Dam safety team during inspection of Sewa-II has advised for construction of an alternate road in place of the damaged portion of the access road to Adit-II. The matter for acquiring land for road for alternate road is being taken up with forest department, Govt of J&K and expected to be finalized in 2021-22. After acquisition of forest land, the construction of road to Adit-II shall be carried out in 2022-23 & 2023-24. The assumed proportionate decapitalised value has been shown at Sl No.3 in form 9(B)(i) during 2021-22. claimed under Regulation 25(2)(c) of 2019 Tariff Regulations.		
4	Replacement of Automatic weather station at Mashka	10.00	Automatic weather station (AWS) installed at Mashka on 27.5.2002 has completed its useful life and is not in working condition. The equipment is beyond repair and also become obsolete. Further, the asset is fully depreciated as per records. The Lawrence & Mayo company was contacted for repair & maintenance of installed AWS system but as per discussion the model is obsolete, and it is beyond economical repair. Therefore, for proper monitoring of weather,	Considering the fact that the expenditure claimed in 2021-22 is towards the replacement of old items, which form part of the original scope of works, the claim of the Petitioner, is **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	10.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			provision for replacement of AWS with new equipment against old. The assumed decapitalised value has been shown at Sl No. 4 in form 9(B)(i) during 2021-22. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.		
	Sub-Total (b	**92.00**			**92.00**
C.	**Additional Capitalization beyond the original scope after cut-off date (Regulation 26)**				
1	**NIL**				
	Sub Total (C)	**0.00**			**0.00**
	Grand Total (A+B+C)	**92.00**			**92.00**

70. In view of the above, the total additional capital expenditure allowed under original scope, change in law and other than original scope of work is Rs 92.00 lakh, Rs 0.00 lakh and Rs.0.00, respectively.

2022-23

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Allowed by Commission in the period 2014-19**				
1	NIL				
	Sub Total (A)	**0.00**			**0.00**
B.	**Replacement of Assets deployed under the original scope of the existing project after cut-off date (Regulation 25)**				
1	Replacement of Windows XP Based SCADA Workstations/ Servers of powerhouse, in phased manner	61.00	Sewa-II Power Station is a SCADA Based Power Plant, commissioned in 2010. Then, BHEL had supplied Windows XP Based SCADA Workstations/ Servers (16 Nos.). Due to round the clock running in last 10 years, these Workstations/ Servers have completed their life and need replacement in phased manner for smooth running of the Power Plant. Further, since Windows XP	Considering the fact that the expenditure claimed is on account of replacement of asset /work due to obsolescence of technology, the claim of the Petitioner is **allowed** under Regulation 25(2)(c) of the 2019 Tariff Regulations. The de-capitalization of old asset/work	61.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			has become obsolete, so the replacement is to be done by Windows 10 or latest available OS based SCADA Workstations/ Servers. 3 nos. workstation were already claimed during 2017-18, the expenditure is not related previous purchase. SCADA System of Powerhouse consisting of 16 workstations are installed. Out of 16, 3 nos were already replaced during 2017-18. Remaining 13 workstations are planned to purchase in phase manner, 5 nos. in 2020-21, 2 nos. in 2022-23 and remaining 6 nos. in 2023-24. The assumed decapitalised value of old asset has been shown at Sl No. 1 in form 9(B)(i) during 2022-23. Claimed under Regulation 25(2)(c) of 2019 Tariff Regulations.	has been considered under 'De-capitalization'.	
2	Replacement of Lamp Based LVS Screen with LED LVS Screen	26.00	Control and monitoring of the various parameters of Generating / Transmission Units is being carried out through workstations. Generating units have to operate through workstation having small size monitor. It becomes very difficult to operators to visualise all parameters in workstation monitor during operation. For efficient operation and monitoring of power station parameter's large view will help the operators. With the help of Large Visual Screen System installed at powerhouse smooth and efficient operation of	Considering the fact that the expenditure claimed is towards the replacement of old items, which form part of the original scope of works, the claim of the Petitioner is **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'.	26.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			generating & Transmission units / Parameters is being done. Existing system has completed its useful life and is giving frequent problems. Service engineer of OEM visited the site in March 2016 and mentioned in their report that in LVS system several parts are near completion of their life cycle. Further, due to obsolescence of existing model, service/ spare problems are also not easily available in the market. Hence, replacement is proposed. The assumed decapitalised value of Rs.13.48 lakhs has been shown at Sl No. 2 in form 9(B)(i) during 2022-23. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.		
3	Construction of alternate road to Adit-II with Steel Bridge of 50m span.	160.00	The Adit-II tunnel of Sewa-II Power Station is used for access to the Head Race Tunnel for inspection and repair purpose. At present, a portion of connecting road to Adit -II is badly damaged and eroded due rocks-slope-failure & heavy landslides. Dam safety team during inspection of Sewa-II has advised for construction of an alternate road in place of the damaged portion of the access road to Adit-II. The matter for acquiring land for road for alternate road is being taken up with forest department, Govt of J&K and expected to be finalized in 2021-22. After	Considering the fact that the expenditure claimed is towards the replacement of old items, which form part of the original scope of works, the claim of the Petitioner is **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'. However, the Petitioner is directed to furnish the insurance adjustment made under insurance claim for	160.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			acquisition of forest land, the construction of road to Adit-II shall be carried out in 2022-23 & 2023-24.The assumed decapitalised value has been shown at Sl No. 3 in form 9(B)(i) during 22-23. Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.	the damaged caused on account of rocks-slope-failure & heavy landslides if any, at the time of truing up of tariff.	
	Sub-Total (B)	**247.00**			**247.00**
C.	**Additional Capitalization beyond the original scope after cut-off date (Regulation 26)**				
1	**NIL**				
	Sub Total (C)	**0.00**			**0.00**
	Grand Total (A+B+C)	**247.00**			**247.00**

71. In view of the above, the total additional capital expenditure allowed under original scope, change in law and other than original scope of work is Rs. 247.00 lakh, Rs 0.00 lakh and Rs.0.00, respectively.

2023-24

(Rs. in lakh)

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
A.	**Allowed by Commission in 2014-19 tariff period**				
1	NIL				
	Sub Total (A)	**0.00**			**0.00**
B.	**Replacement of Assets deployed under the original scope of the existing project after cut-off date (Regulation 25)**				
1	Replacement of Windows XP Based SCADA Workstations/ Servers of powerhouse,	180.00	Sewa-II Power Station is a SCADA Based Power Plant, commissioned in 2010. Then, BHEL had supplied Windows XP Based SCADA Workstations/ Servers (16 Nos.). Due to round the clock running in last 10 years, these Workstations/ Servers have completed their life and need replacement in phased manner for smooth running of the Power Plant. Further, since Windows XP	Considering the fact that the expenditure claimed is on account of replacement of asset /work due to obsolescence of technology, the claim of the Petitioner is **allowed** under Regulation 25(2)(c) of the 2019 Tariff Regulations. The de-capitalization of old asset/work	180.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			has become obsolete, so the replacement is to be done by Windows 10 or latest available OS based SCADA Workstations/ Servers. 3 nos. workstation were already claimed during 2017-18, the expenditure is not related previous purchase. SCADA System of Powerhouse consisting of 16 workstations are installed. Out of 16, 3 nos were already replaced during 2017-18. Remaining 13 workstations are planned to purchase in phase manner. 2nos in 5 nos in 2020-21, 2 nos in 2022-23 and remaining 6 no's in 2023-24. The assumed decapitalised value has been shown at Sl No. 1 in form 9(B)(i) during 2023-24. Claimed under Regulation 25(2)(c) of 2019 Tariff Regulations.	has been considered under 'De-capitalization'. However, the Petitioner is directed to furnish the (i) insurance adjustment made under insurance claim for the damaged caused on account of rocks-slope-failure & heavy landslides if any and (ii) the consolidate scheme, at the time of truing up of tariff.	
2	Construction of alternate road to Adit-II with Steel Bridge of 50m span	120.00	The Adit-II tunnel of Sewa-II Power Station is used for access to the Head Race Tunnel for inspection and repair purpose. At present, a portion of connecting road to Adit -II is badly damaged and eroded due rocks-slope-failure & heavy land-slides. Dam safety team during inspection of Sewa-II has advised for construction of an alternate road in place of the damaged portion of the access road to Adit-II. The matter for acquiring land for road for alternate road is being taken up with forest department, Govt of J&K and expected to be	Considering the fact that the expenditure claimed is towards the replacement of old items, which form part of the original scope of works, the claim of the Petitioner is **allowed** under Regulation 25(2)(a) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under 'De-capitalization'. However, the Petitioner is directed to furnish the insurance adjustment made under	120.00

S. No	Details of the claim	Amount claimed	Justification submitted by the Petitioner	Remarks on admissibility	Amount Allowed
			finalized in 2021-22. After acquisition of forest land, the construction of road to Adit-II shall be carried out in 2022-23 & 2023-24. The assumed decapitalised value has been shown at Sl No. 2 in form 9(B)(i). Claimed under Regulation 25(2)(a) of 2019 Tariff Regulations.	insurance claim for the damaged caused on account of rocks-slope-failure & heavy landslides if any, at the time of truing up of tariff.	
	Sub-Total (B)	**300.00**			**300.00**
C.	**Additional Capitalization beyond the original scope after cut-off date (Regulation 26)**				
1	**NIL**				
	Sub Total (C)	**0.00**			**0.00**
	Grand Total (A+B+C)	**300.00**			**300.00**

72. In view of the above, the total additional capital expenditure allowed under original scope, change in law and other than original scope of work is Rs. 300.00 lakh, Rs.0.00 and Rs.0.00 lakh, respectively.

De-capitalization

73. The Petitioner has claimed the projected de-capitalization, as per Form 9Bi, as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
0.00	(-)99.14	(-)41.16	(-)89.21	(-)129.17

74. It is observed that the Petitioner has claimed projected decapitalization for assets Multi-purpose compact loader cum excavator, GPS Based Time Synchronising Panel for control and monitoring system, with compatible slave clocks, Automatic weather station, Replacement of Windows XP Based SCADA Workstations/ Servers, Replacement of 220V Battery Bank, etc. The same has been considered for the purpose of tariff. However, the Petitioner is directed to furnish the gross value of old

replaced asset as per books at the time of truing up. Accordingly, the decapitalization allowed for the period 2019-24 is as under:

(Rs. in lakh)

2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
0.00	(-)99.14	(-)41.16	(-)89.21	(-)129.17

Discharge of liabilities

75. The Petitioner has claimed discharge of liabilities of Rs. 3.51 lakh in 2019-20. The closing liability, as on 31.3.2019, is Rs.272.60 lakh. The Petitioner has claimed discharges amounting to Rs. 0.77 lakh on account of Air conditioners for powerhouse, which has been disallowed. Accordingly, the discharge of liabilities of Rs.2.74 lakh in 2019-20, is allowed. Therefore, the closing liability as on 31.3.2019 is Rs.269.86 lakh and the same is subject to truing up.

Additional capital expenditure allowed (net) for the period 2019-24

76. In view of above, the net additional capital expenditure allowed for the period 2019-24 is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Additional capital expenditure allowed **(a)**	12.00	254.00	92.00	247.00	300.00
Less: De-capitalisation considered **(b)**	0.00	99.14	41.16	89.21	129.17
Discharge of liabilities **(c)**	2.74	0.00	0.00	0.00	0.00
Net additional capital expenditure allowed (c)=(a)-(b)+(c)	**14.74**	**154.86**	**50.84**	**157.79**	**170.83**

Capital cost allowed for the period 2019-24

77. Accordingly, the capital cost allowed for the period 2019-24 is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening Capital Cost	114921.78	114936.52	115091.38	115142.21	115300.01
Net Additional capital expenditure allowed during the year/ period	14.74	154.86	50.84	157.79	170.83
Closing Capital Cost	**114936.52**	**115091.38**	**115142.21**	**115300.01**	**115470.84**

Debt-Equity Ratio

78. Regulation 18 of the 2019 Tariff Regulations provides as under:

> *"18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. 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, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*
>
> *(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt:equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:*
>
> *Provided that in case of a generating station or a transmission system including communication, system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30%shall not be taken into account for tariff computation;*
>
> *Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.*
>
> *(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.*
>
> *(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 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."*

79. In terms of the above regulations, the debt: equity ratio, was considered as 70:30, for the purpose of additional capitalization. De-capitalization of assets has been deducted from the corresponding loan as well as equity, taking into consideration the debt equity ratio, applied in the year in which it was capitalized. Accordingly, the details of debt-equity ratio in respect of the generating station as on 1.4.2019 and as on 31.3.2024 are as under:

(Rs. in lakh)

	As on 1.4.2019		**Additional Capitalization**		**De-capitalization**		**As on 31.3.2024**	
	Amount	**(in %)**	**Amount**	**(in %)**	**Amount**	**(in %)**	**Amount**	**(in %)**
Debt	80445.24	70.00%	635.42	70.00%	251.08	70.00%	80829.59	70.00%
Equity	34476.53	30.00%	272.32	30.00%	107.60	30.00%	34641.25	30.00%
Total	**114921.78**	**100.00%**	**907.74**	**100.00%**	**358.68**	**100.00%**	**115470.84**	**100.00%**

Return on Equity

80. Regulations 30 and 31 of the 2019 tariff Regulations provide as under:

"30. Return on Equity

(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% 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) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

31. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

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

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess: Rate of return on equity = 15.50/(1-0.2155) = 19.758%

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

(a) Estimated Gross Income from generation or transmission business for 2019-20 is Rs. 1,000 Crore;

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

(c) Effective Tax Rate for the year 2019-20 = Rs. 240 Crore/Rs. 1000 Crore = 24%;

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

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed-up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 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 customers, as the case may be, on year to year basis."

81. The Return on Equity (ROE) for the existing asset base and the additional capital expenditure allowed, in this order, for asset/works within the original scope of work, has been calculated by grossing up the base ROE at MAT rate of 17.472% as submitted by the Petitioner. Further, based on the additional capital expenditure which are beyond the original scope and allowed in this order, ROE has been calculated considering the weighted average rate of interest claimed by the Petitioner. Accordingly, ROE has been worked out and allowed as under:

Return on Equity at Normal Rate

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening Equity (A)	34476.53	34477.36	34510.61	34525.87	34573.20
Total addition due to Capitalization (B)	0.82	33.26	15.25	47.34	51.25
Closing Equity (C) =(A)+(B)	34477.36	34510.61	34525.87	34573.20	34624.45
Average Equity (D)=(A+C)/2	34476.95	34493.99	34518.24	34549.53	34598.83
Base rate (%) (E)	16.500%	16.500%	16.500%	16.500%	16.500%
Effective Tax rate (%) (F)	17.472%	17.472%	17.472%	17.472%	17.472%
Effective ROE rate (%) (G) =E/(1-F)	19.993%	19.993%	19.993%	19.993%	19.993%
Return on Equity within the original scope of work (H)=(D)*(G)	**6892.98**	**6896.38**	**6901.23**	**6907.49**	**6917.34**

Return on Equity at WAROI

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening Equity **(A)**	0.00	3.60	16.80	16.80	16.80
Addition due to Capitalization beyond scope of work **(B)**	3.60	13.20	0.00	0.00	0.00
Closing Equity **(C)**=(A)+(B)	3.60	16.80	16.80	16.80	16.80
Average Equity **(D)**=(A+C)/2	1.80	10.20	16.80	16.80	16.80
Base rate (%) **(E)**	8.222%	8.679%	8.503%	8.094%	6.045%
Effective Tax rate (%) **(F)**	17.472%	17.472%	17.472%	17.472%	17.472%
Effective ROE rate (%) **(G)** =E/(1-F)	9.963%	10.516%	10.304%	9.807%	7.325%
Return on Equity within the original scope of work **(H)**=(D)*(G)	**0.18**	**1.07**	**1.73**	**1.65**	**1.23**

Total Return on Equity allowed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity at Normal Rate **(A)**	6892.98	6896.38	6901.23	6907.49	6917.34
Return on Equity at WAROI **(B)**	0.18	1.07	1.73	1.65	1.23
Total Return on Equity allowed (C= A+B**)**	**6893.15**	**6897.46**	**6902.96**	**6909.14**	**6918.57**

Interest on Loan

82. Regulation 32 of the 2019 Tariff Regulations provides as under:

"32. Interest on loan capital:

(1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalisation of such asset.

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

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest 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 changes to the terms and conditions of the loans shall be reflected from the date of such re-financing."

83. Interest on loan has been computed as under:

i) The gross normative loan amounting to Rs. 80445.24 lakh as on 31.3.2019, as considered in this order has been considered as opening gross normative loan as on 1.4.2019.

ii) Cumulative repayment amounting to Rs. 49876.98 lakh as on 31.3.2019, as considered in this order has been considered as on 1.4.2019.

iii) Accordingly, the net normative opening loan as on 1.4.2019 works out to Rs. 30568.27 lakh.

iv) Addition to normative loan on account of additional capital expenditure approved above have been considered.

v) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 8.221% in 2019-20, 8.679% in 2020-21, 8.503% in 2021-22, 8.094% in 2022-23 and 10.3591% in 2023-24. Some arithmetical error has been observed in rate of interest on loan during 2023-24 in Form 13. The same has been rectified and revised to 6.045%. The same has been considered for tariff.

vi) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2019-24 tariff period. Further, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff.

vii) Interest on loan has been worked out as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Gross opening loan **(A)**	80445.24	80455.56	80563.96	80599.55	80710.00
Cumulative repayment of loan upto previous year **(B)**	49876.98	55701.07	61478.96	67289.54	73074.10
Net Loan Opening (C=A-B)	30568.27	24754.49	19085.00	13310.00	7635.91
Addition due to additional capital expenditure **(D)**	10.32	108.40	35.59	110.45	119.58
Repayment of loan during the year **(E)**	5824.10	5828.39	5833.61	5838.89	1120.65
Less: Repayment adjustment on account of de-capitalization **(F)**	0.00	50.50	23.02	54.34	82.38
Net Repayment of loan during the year (**G**=E-F)	5824.10	5777.89	5810.58	5784.55	1038.26
Net Loan Closing (H = C+D-G)	24754.49	19085.00	13310.00	7635.91	6717.22
Average Loan (**I**= (C+H)/2)	27661.38	21919.75	16197.50	10472.95	7176.56
Weighted Average Rate of Interest of loan **(J)**	8.222%	8.679%	8.503%	8.094%	6.045%
Interest on Loan (K= I*J)	**2274.35**	**1902.42**	**1377.35**	**847.65**	**433.84**

Depreciation

84. Regulation 33 of the 2019 Tariff Regulations provides as under:

"33. Depreciation:
(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including

communication system. 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:

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 a 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

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

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(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-I 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 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2019 from the gross depreciable value of the assets.

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

(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."

85. Accordingly, the cumulative depreciation amounting to Rs. 49876.98 lakh as on 31.3.2019, has been considered for the purpose of tariff. The COD of the generating station is 24.7.2010. The project has completed 12 years of commercial operation in 2022-23 and the remaining depreciable value has been spread over the balance useful life of the generating station from 2023-24 onwards. In terms of the 2014 Tariff Regulations, the useful life of a hydro generating station was 35 years. However, the 2019 Tariff Regulations stipulates that the useful life of a hydro generating station is 40 years. Accordingly, the balance useful life of the generating station as on 1.4.2019 has been considered as 31.31 years in line with the 2019 Tariff Regulations. Accordingly, depreciation has been computed subject to truing-up as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening Gross block **(A)**	114921.78	114936.52	115091.38	115142.21	115300.01
Net Additional capital expenditure during 2019-24 **(B)**	14.74	154.86	50.84	157.79	170.83
Closing gross block **(C=A+B)**	114936.52	115091.38	115142.21	115300.01	115470.84
Average gross block **(D)=(A+C)/2**	114929.15	115013.95	115116.80	115221.11	115385.42
Land Value	181.73	181.73	181.73	181.73	181.73
Depreciable Value [**E**=(D-Land Value) *90%)]	103272.68	103349.00	103441.56	103535.44	103683.32
Remaining Depreciable Value at the beginning of the year (**F**=E-Cum Dep at 'L' at the end of previous year)	53395.70	47647.92	41962.60	36245.90	30609.22
Rate of Depreciation **(G)**	5.068%	5.068%	5.068%	5.068%	-
Balance useful Life **(H)**	31.31	30.31	29.31	28.31	27.31
Depreciation (I=D*G) (F/H for 2023-24)	**5824.10**	**5828.39**	**5833.61**	**5838.89**	**1120.65**
Cumulative Depreciation at the end of the year (J=I+ Cum Dep at 'K' at the end of previous year)	55701.07	61529.47	67312.57	73128.44	74194.75
Adjustment on account of decapitalization (K)	-	50.50	23.02	54.34	82.38
Cumulative Depreciation at the end of the year (L=J-K)	55701.07	61478.96	67289.54	73074.10	74112.36

Operation & Maintenance Expenses

86. Regulation 35(2)(a) of the 2019 Tariff Regulations provides as under:

(2) Hydro Generating Station: (a) Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 1.4.2019:

(Rs. in lakh)

	2019-20	***2022-21***	***2021-22***	***2022-23***	***2023-24***
Sewa II	*7079.34*	*7416.78*	*7770.31*	*8140.68*	*8528.71*

Note: The impact in respect of revision of minimum wage, pay revision and GST, if any, will be considered at the time of determination of tariff.

xxxxxx"

87. The Petitioner has claimed the following O&M expenses for the period 2019-24:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Normative O&M expenses as per Regulation 35(3)(a) **(A)**	7079.34	7416.78	7770.31	8140.68	8528.71
Additional O&M expenses due to 7th Pay Commission wage revision- 3rd PRC applicable to CPSUs **(B)**	883.04	925.16	969.29	1015.53	1063.97
Additional O&M expenses due to 7th Pay Commission wage Revision of Kendriya Vidyalaya (KV) Staff **(C)**	2.35	2.47	2.58	2.71	2.84
Impact of Goods & Service Tax **(D)**	227.40	238.25	249.61	261.52	274.00
Total O&M Expenses claimed (A+B+C+D)	**8192.14**	**8582.66**	**8991.80**	**9420.44**	**9869.51**
Security Expenses **(E)**	1285.73	1347.06	1411.31	1478.63	1549.16

88. The generating station is in operation for more than 3 years, as on 1.4.2019. As the normative O&M expenses claimed by the Petitioner above, is in terms of Regulation 35(2)(a) of the 2019 Tariff Regulations, the same is allowed.

Additional Operation and Maintenance Expenses

Impact of wage revision

89. The Petitioner has claimed additional O&M expenses on account of the impact of wage/ pay revision and GST as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Additional O&M expenses due to 7th Pay Commission wage revision- 3rd PRC applicable to CPSUs **(a)**	883.04	925.16	969.29	1015.53	1063.97
Additional O&M expenses due to 7th Pay Commission wage Revision of Kendriya Vidyalaya (KV) Staff **(b)**	2.35	2.47	2.58	2.71	2.84
Impact of Goods & Service Tax **(c)**	227.40	238.25	249.61	261.52	274.00
Security Expenses **(d)**	1285.73	1347.06	1411.31	1478.63	1549.16
Total O&M Expenses claimed (a+b+c+d)	**2398.52**	**2512.94**	**2632.79**	**2758.39**	**2889.97**

Impact of wage revision due to 3rd PRC applicable to CPSUs

90. The Petitioner has claimed Rs. 883.04 lakh in 2019-20 as additional O&M expenses due to pay revision of the Petitioners' staff, based on impact of pay revision of Petitioners' staff during 2018-19. In this regard, it is pertinent to mention that in Petition No. 226/MP/2019 filed by the Petitioner seeking recovery of the additional O&M expenses for the generating station due to impact of wage/ pay revision for the period 2014-19, the Commission vide its order dated 10.11.2022 had allowed an amount of Rs. 842.84 lakh as impact of wage revision during 2018-19. As such, the impact of wage revision in 2019-20 (after escalating @ 4.77% the above amount allowed in 2018-19) works out to Rs. 883.04 lakh. Accordingly, the claim of the Petitioner for Rs 883.04 lakh in 2019-20 is considered and the same is thereafter escalated @4.77% per annum, during the relevant years of the period 2019-24 and allowed as additional O&M expenses due to pay revision of the Petitioner's staff as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
883.04	925.16	969.29	1015.53	1063.97

Impact of pay revision of KV staff

91. As regards the claim of Petitioner towards the impact of pay revision of KV staff, it is pertinent to mention that the Commission in its order dated 10.11.2022 in Petition

No. 228/MP/2019 (as stated above) had allowed an amount of Rs. 2.15 lakh as impact of wage revision of KV staff in 2018-19. However, the Petitioner has considered an amount of Rs. 2.25 lakh for 2018-19 and claimed Rs. 2.35 lakh (after escalating @ 4.77%). Since the Commission vide its order dated 10.11.2022 had allowed the claimed amount of Rs. 2.15 lakh, the same is considered for allowing the impact of wage revision in 2019-20 (after escalating @ 4.77%) which works out to Rs 2.25 lakh. Accordingly, the same i.e. Rs. 2.25 lakh is considered and thereafter escalated @4.77% per annum for the relevant years of the period 2019-24 and is allowed as additional O&M expenses due to pay revision of KV staff as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2.25	2.36	2.47	2.59	2.71

Goods & Service Tax

92. The Respondent BRPL, has submitted that the Petitioner is seeking the grant of GST without further examination whether the amount provided in the norm-based tariff is adequate or not. Thus, any proposal which has a bearing on the norms can be accepted only if the Petitioner proves that the norms are inadequate to meet the additional expenditure on account of GST. Further the Respondent has pointed out that, details provided by the Petitioner would show that the GST has been claimed by the Petitioner under the Security Services and the operational services. In response, the Petitioner has submitted that subsequent to applicability of GST w.e.f. 1.7.2017 (in the state of J&K w.e.f. 8.7.2017), there has been additional impact on account of GST on the O&M Expenses which were fixed by the commission for the tariff period 2014-19. The Petitioner has further submitted that, since this is an additional expenditure on

account of change in Law i.e., introduction of GST, the Petitioner was unable to meet this expenditure from already allowed O&M Expenses.

93. We have considered the matter. The Petitioner has claimed impact of GST for the period 2019-24 on the basis of the actual impact of GST during 2018-19. The Petitioner has submitted the total GST amount of Rs. 374.15 lakh for the period from 1.7.2017 to 31.3.2019, based on actual audited accounts for 21 months (Rs. 157.10 lakh in 2017-18 and Rs.217.05 lakh in 2018-19). On scrutiny of the details, it is noticed that the claim of Petitioner also includes impact of GST on security expenses, which is summarized as shown under:

S. No.	Year	Security Services	Operational Services	Total
1	2017-18	113.25	43.85	157.10
2	2018-19 (till Dec.18)	114.68	56.13	170.82
3	2018-19 (1.1.19 to 31.03.19)	30.04	16.19	46.23
	Total	**257.98**	**116.17**	**374.15**

94. As per Regulation 35(2)(d) of the 2019 Tariff Regulations, Security expenses shall be allowed separately after prudence check. Hence, excluding the security expenses this works out be Rs. 116.17 lakh as shown in the table above, for the period from 1.7.2017 to 31.3.2019. This has been normalized and an amount of Rs. 69.55 lakh has been worked out for 2019-20 (after escalating above amount of Rs. 66.38 lakh @ 4.77%). Accordingly, the base value of 2019-20 has been escalated @4.77% and GST impact has been worked out and allowed for the period 2020-24, as per note under Regulation 35(2)(a) of the 2019 Tariff Regulations as given below:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
69.55	72.87	76.34	79.98	83.80

Capital Spares

95. As regards capital spares, the Petitioner has submitted that same will be claimed at the time of truing-up of tariff for the period 2019-24 based on the actual expenses incurred. In view of this, capital spares, have not been considered in this order.

Security Expenses

96. Regulation 35(2)(c) of 2019 Tarff Regulations provides as under:

> *"(c) The Security Expenses and Capital Spares for hydro generating stations shall be allowed separately after prudence check:*
> *Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification."*

97. The estimated security expenses claimed by the Petitioner for the period 2019-24 based on security requirement of the generating station is as under:

(Rs. in lakh)

2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
1285.73	1347.06	1411.31	1478.63	1549.16

98. The Petitioner has claimed actual security expenses of Rs. 1227.19 lakh in 2018-19 and has escalated the same at the rate of 4.77%. Considering the security requirements of the generating station, we allow the projected security expenses as claimed by the Petitioner above, for the period 2019-24. The Petitioner is however, directed to submit the actual security expenses incurred, duly audited, at the time of truing up of tariff.

99. Accordingly, the O&M expenses allowed for the generating station are as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Normative O&M expenses **(a)**	7079.34	7416.78	7770.31	8140.68	8528.71
Additional O&M expenses due to 7th Pay Commission wage Revision- 3rd PRC applicable to CPSUs **(b)**	883.04	925.16	969.29	1015.53	1063.97
Additional O&M expenses due to 7th Pay Commission wage	2.25	2.36	2.47	2.59	2.71

	2019-20	2020-21	2021-22	2022-23	2023-24
Revision of Kendriya Vidyalaya (KV) Staff **(c)**					
GST **(d)**	69.55	72.87	76.34	79.98	83.80
Total expenses excluding Security (e=a+b+c+d)	**8034.18**	**8417.17**	**8818.41**	**9238.78**	**9679.19**
Security Expenses (f)	1285.73	1347.06	1411.31	1478.63	1549.16
Total additional O&M Expenses (g=e+f)	**9319.91**	**9764.23**	**10229.72**	**10717.41**	**11228.35**

Interest on Working Capital

100. Sub-section (c) of clause (1) of Regulation 34 of the 2019 Tariff Regulations provides as under:

> *"34. Interest on Working Capital: (1) The working capital shall cover*
> *(c) For Hydro generating station (Including Pumped Storage Hydro Generating Station) and transmission system:*
> *(i) Receivables equivalent to 45 days of annual fixed cost;*
> *(ii) Maintenance spares @ 15% of operation and maintenance expense including security expenses; and*
> *(iii) Operation and maintenance expenses including security expenses for one month"*

101. Regulation 34(3) of the 2019 Tariff Regulations provides as under:

> *"34(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 2019-24 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." Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24."*

Working Capital for Receivables

102. The Receivable component of working capital has been worked out based on two months of fixed cost as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
3066.77	3081.64	3071.94	3069.61	2488.25

Working Capital for Maintenance Spares

103. Maintenance spares @15% of O&M expenses are worked out and allowed as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1397.99	1464.63	1534.46	1607.61	1684.25

Working capital for O&M Expenses

104. O&M expenses for 1 month for the purpose of working capital are as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
776.66	813.69	852.48	893.12	935.70

Rate of Interest on Working Capital

105. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital considered on projection basis, for the period 2019-24 is 12.05% (i.e., 1-year SBI MCLR of 8.55% as on 1.4.2019 + 350 basis points). As the tariff of the generating station for the period 2019-24 is being determined during 2023-24, SBI MCLR as on 1.4.2020 (7.75%), as on 1.4.2021 (7.00%) and as on 1.4.2022 (7.00%) is also available which is lower in comparison to the SBI MCLR as on 1.4.2019 (8.55%). Since the rate of interest on working capital is subject to revision at the time of truing-up of tariff, based on the bank rate as on 1st April of each financial year, we find it prudent to allow the rate of interest as on 1.4.2020, 1.4.2021 and 1.4.2022 for the subsequent financial years. Accordingly, the rate of interest for the year 2019-20 is 12.05%, 2020-21 is 11.25% and for the subsequent years the rate of interest of 10.50% has been considered (i.e., 1-year SBI MCLR of 7.75% as on 1.4.2020 + 350 basis points and 1-year SBI MCLR of 7.00% as on 1.4.2021 & 1.4.2022 + 350 basis points). Accordingly, Interest on working capital is allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Working capital for O&M expenses (one month of O&M expenses)	776.66	813.69	852.48	893.12	935.70

	2019-20	2020-21	2021-22	2022-23	2023-24
Working capital for Maintenance Spares (15% of O&M expenses)	1397.99	1464.63	1534.46	1607.61	1684.25
Working capital for Receivables (45 days of Fixed cost)	3066.78	3081.64	3071.94	3069.62	2488.25
Total Working capital	**5241.42**	**5359.96**	**5458.87**	**5570.34**	**5108.20**
Rate of interest (%)	12.05%	11.25%	10.50%	10.50%	10.50%
Interest on Working capital	**631.59**	**602.99**	**573.18**	**584.89**	**536.36**

Annual Fixed Charges for the period 2019-24

106. Based on the above, the annual fixed charges approved for the generating station for the period 2019-24 are summarized as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	5824.10	5828.39	5833.61	5838.89	1120.65
Interest on loan	2274.35	1902.42	1377.35	847.65	433.84
Return on Equity	6893.15	6897.46	6902.96	6909.14	6918.57
Interest on Working capital	631.59	602.99	573.18	584.89	536.36
O&M Expenses	7079.34	7416.78	7770.31	8140.68	8528.71
Additional O&M expenses	2240.57	2347.45	2459.42	2576.73	2699.64
Total	**24943.10**	**24995.49**	**24916.83**	**24897.98**	**20237.77**

Note: (1) All figures are on annualized basis. (2) 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.

107. The annual fixed charges approved as above, is subject to truing up in terms of Regulation 13 of the 2019 Tariff Regulations.

Normative Annual Plant Availability Factor (NAPAF)

108. The Petitioner has claimed NAPAF of 89% in terms of Regulation 50(A)(4) of the 2019 Tariff Regulations, which provides as under.

> *50. Norms of Operation for Hydro Generating Stations: The norms of operation as given hereunder shall apply to hydro generating station:*
> *(A) Normative Annual Plant Availability Factor (NAPAF): (1) The following normative annual plant availability factor (NAPAF) shall apply to hydro generating station:*
> *(a) Storage and Pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability not affected by silt: 90%.*
> *(b) In case of storage and pondage type plants with head variation between full reservoir level and minimum draw down level is more than 8% and when plant availability is not affected by silt, the month wise peaking capability as provided by the project authorities*

in the DPR (approved by CEA or the State Government) shall form basis of fixation of NAPAF.
(c) Pondage type plants where plant availability is significantly affected by silt: 85%. Run-of-river generating stations: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant.
…..

Station	***Type of Plant***	***Plant Capacity No. of Units x MW***	***NAPAF (%)***
Sewa-II	*Pondage*	*3X40*	*89%*

109. Accordingly, NAPAF of 89% as claimed by the Petitioner is allowed.

Design Energy (DE)

110. The Commission in this order has approved the annual Design Energy (DE) of 533.53 million units for the period 2014-19 in respect of this generating station. Accordingly, this DE has been considered for this generating station for the period 2019-24 as per month-wise details as under:

Month	**Design Energy (MUs)**
April	55.93
May	39.01
June	81.92
July	76.69
August	84.82
September	40.90
October	21.36
November	14.66
December	11.70
January	9.72
February	22.61
March	74.21
Total	533.53

Application Fee and Publication Expenses

111. The Petitioner has sought the reimbursement of fees paid by it for filing the tariff petition and for publication expenses in respect of the same. Accordingly, in terms of the Regulation 70(1) of the 2019 Tariff Regulations, the Petitioner shall be entitled for

the reimbursement of filing fees and publication expenses in connection with the present petition, directly from the beneficiaries, on pro-rata basis.

112. Similarly, RLDC fees & charges paid by the Petitioner in terms of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Dispatch Centre and other related matters) Regulations, 2015, shall be recovered from the beneficiaries. In addition, the Petitioner is entitled recovery of statutory taxes, levies, duties, cess etc. levied by the statutory authorities in accordance with the 2019 Tariff Regulations.

113. Accordingly, the summary of the annual fixed charges claimed and allowed for the period 2019-24 is summarized below:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Claimed*	25127.62	25222.42	25186.25	25177.13	20824.47
Allowed*	24943.10	24995.49	24916.83	24897.98	20237.77

**Including security charges*

114. Petition No. 643/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member