

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 412/GT/2020

Coram:

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

Date of order: 14th January, 2024

In the matter of:

Petition for approval of tariff for Koldam Hydroelectric Project (800 MW) for the period 2019-24.

And

IN the matter of:

NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003.

. . .Petitioner

Vs

1. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan, 14, Ashok Marg
Lucknow – 226 001
2. Jaipur Vidyut Vitran Nigam Limited,
Vidyut Bhawan, Janpath,
Jaipur – 302 005
3. Ajmer Vidyut Vitran Nigam Limited,
Old Power House, Hathi Bhata,
Jaipur Road, Ajmer
4. Jodhpur Vidyut Vitran Nigam Limited,
New Power House, Industrial Area,
Jodhpur
5. Tata Power Delhi Distribution Limited,
Grid Substation, Hudson Road,
Kingsway Camp, Delhi – 110 009
6. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place,
New Delhi- 110 019



7. BSES Yamuna Power Limited,
Shakti Kiran Building, Karkardooma
New Delhi – 110 092
8. Haryana Power Purchase Centre,
Shakti Bhawan, Sector – VI,
Panchkula, Haryana – 134 109
9. Punjab State Power Corporation Limited,
The Mall, Patiala – 147 001
10. Himachal Pradesh State Electricity Board Limited,
Kumar Housing Complex Building-II, Vidyut Bhawan
Shimla – 171 004
11. Power Development Department,
Government of J&K,
Civil Secretariat, Srinagar
12. Electricity Department (Chandigarh),
Union Territory of Chandigarh,
Addl. Office Building, Sector-9 D
Chandigarh
13. Uttarakhand Power Corporation Limited,
Urja Bhavan, Kanwali Road
Dehradun – 248 001

...Respondents

Parties present:

Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Ms. Surbhi Gupta, Advocate, NTPC

ORDER

This Petition has been filed by the Petitioner, NTPC Limited for determination of tariff of Koldam Hydroelectric Power Station (800 MW) (in short 'the generating station') for the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations'). The generating station with a total capacity of 800 MW comprises of four units of 200 MW each, which were declared under commercial operation on 18.7.2015. The Commission vide its order dated



5.10.2023 in Petition No. 363/GT/2020 had revised capital cost and annual fixed charges of the generating station for the period 2014-19, after truing-up exercise, as under:

Capital Cost allowed

(Rs. in lakh)

| | 2015-16 (18.7.2015 to 31.3.2016) | 2016-17 | 2017-18 | 2018-19 |
|--|--|------------------|------------------|------------------|
| Opening Capital cost | 659730.31 | 664955.95 | 678165.31 | 690596.70 |
| Additional Capital expenditure allowed | 5225.64 | 13209.36 | 12431.39 | 13238.26 |
| Closing Capital cost | 664955.95 | 678165.31 | 690596.70 | 703834.96 |
| Average Capital cost | 662343.13 | 671560.63 | 684381.01 | 697215.83 |

Annual Fixed Charges allowed

(Rs. in lakh)

| | 2015-16 (18.7.2015 to 31.3.2016) | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|--|------------------|------------------|------------------|
| Depreciation | 22737.34 | 32707.46 | 33235.78 | 33733.22 |
| Interest on Loan | 28262.36 | 38916.53 | 33536.59 | 32533.23 |
| Return on Equity | 29382.33 | 42261.98 | 43068.78 | 43991.53 |
| Interest on Working Capital | 2514.55 | 3626.41 | 3600.04 | 3680.80 |
| O&M Expenses | 12025.57 | 18192.29 | 19400.25 | 20688.43 |
| Total | 94922.16 | 135704.67 | 132841.45 | 134627.22 |

Present Petition

2. The Petitioner has filed the present Petition for determination of tariff of the generating station for the period 2019-24, and has claimed the following capital cost and annual fixed charges:

Capital Cost claimed

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|-----------|-----------|-----------|-----------|-----------|
| Opening Capital Cost | 699278.40 | 701578.40 | 712878.40 | 717578.40 | 719078.40 |
| Add: Addition during the year | 2300.00 | 11300.00 | 4700.00 | 1500.00 | 1350.00 |
| Less: De-capitalization during the year | - | - | - | - | - |
| Less: Reversal during the year | - | - | - | - | - |
| Add: Discharges during the year | - | - | - | - | - |
| Closing Capital Cost | 701578.40 | 712878.40 | 717578.40 | 719078.40 | 720428.40 |
| Average Capital Cost | 700428.40 | 707228.40 | 715228.40 | 718328.40 | 719753.40 |



Annual Fixed Charges claimed

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|
| Depreciation | 33777.22 | 34105.14 | 34490.93 | 34640.42 | 34709.14 |
| Interest on Loan | 28597.69 | 26111.64 | 23734.06 | 21389.43 | 18865.89 |
| Return on Equity | 42010.92 | 42386.56 | 42826.76 | 43006.34 | 43092.77 |
| Interest on Working Capital | 2292.19 | 2299.72 | 2306.99 | 2308.72 | 2301.71 |
| O&M Expenses | 16577.04 | 17249.49 | 17952.69 | 18689.03 | 19458.94 |
| Total | 123255.06 | 122152.54 | 121311.44 | 120033.94 | 118428.45 |

3. The Petitioner has filed certain additional information vide affidavit dated 20.12.2021 and 9.9.2022, with copy to the Respondents. The Respondent, UPPCL has filed reply vide affidavit dated 28.12.2021 and the Petitioner has filed its rejoinder to the same vide affidavit dated 6.1.2022. The Petition was heard through video conferencing on 6.1.2023, wherein, the learned counsel for the Petitioner circulated note of arguments and made detailed oral submissions. Accordingly, the Commission, after directing the Petitioner to file certain additional information, reserved its order in the petition on 6.1.2023. The Commission also permitted the counsel for the Petitioner to place on record the note of arguments. In compliance, the Petitioner has filed additional information vide affidavit dated 7.3.2023, after serving copies on the Respondents and has also filed note of arguments/ written submissions on 13.1.2023. Taking into consideration the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station for the period 2019-24, after prudence check, as stated in the subsequent paragraphs.

Capital Cost

4. Clauses (1), (3) and (5) of Regulation 19 of the 2019 Tariff Regulations provide as under:



“19. Capital Cost:

(1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.

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(3) 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 modernisation 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.

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(5) The following shall be excluded from the capital cost of the existing and new projects:

(a) The assets forming part of the project, but not in use, as declared in the tariff petition;

(b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment.”

5. The Petitioner has claimed annual fixed charges, based on the opening capital cost of Rs.699278.40 lakh, as on 1.4.2019. However, the Commission, in the order dated 5.10.2023 in Petition No. 363/GT/2020, had approved the closing capital cost of Rs.703834.96 lakh, as on 31.3.2019. Accordingly, the same 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, in accordance with the 2019 Tariff Regulations.



Additional Capital Expenditure

6. Clauses (1) and (2) of Regulations 24, 25 and 26 of the 2019 Tariff Regulations, provides as under:

“24. Additional Capitalisation within the original scope and upto the cut-off date

(1) The additional capital expenditure in respect of a 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:

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) 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;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) The generating company or the transmission licensee, as the case may be shall submit 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.

25. Additional Capitalisation 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.

26. Additional Capitalisation 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 Modernisation (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 capitalised.”

7. The year-wise projected additional capital expenditure claimed by the Petitioner in respect of the generating station for the period 2019-24, is as under:

| <i>(Rs. in lakh)</i> | | | | | | | |
|--|--|---------|---------|---------|---------|---------|---------|
| S. No | Work/ Equipment's | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
| (A) Works within the Original scope | | | | | | | |
| 1 | Private Land (Freehold) | 300.00 | 200.00 | 200.00 | - | - | 700.00 |
| 2 | Land Acquisition Office Admin expenses | 60.00 | 60.00 | 60.00 | 60.00 | 50.00 | 290.00 |
| 3 | Land Reference cases | 700.00 | 1100.00 | 900.00 | 400.00 | 500.00 | 3600.00 |
| 4 | R&R Works | 250.00 | 300.00 | 300.00 | 200.00 | 200.00 | 1250.00 |



| S. No | Work/ Equipment's | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
|-------|--|---------|---------|---------|---------|---------|---------|
| 5 | Local Area Development Fund (LADF) | - | 4600.00 | - | - | - | 4600.00 |
| 6 | Construction of Balance Quarters, misc. township works & other associated facilities at township | 20.00 | 280.00 | 100.00 | 100.00 | 100.00 | 600.00 |
| 7 | Implementation of Buildings: Admin Building, CISF Barracks, Armory, Gate Complex, CISF B Type Quarters, Internal Roads/Pathways/Culvert, auditorium completion, visitor gallery etc. | 200.00 | 600.00 | 200.00 | - | - | 1000.00 |
| 8 | Plant Boundary Wall & Fencing | 20.00 | - | - | - | - | 20.00 |
| 9 | Permanent water supply scheme | - | 100.00 | 150.00 | 20.00 | - | 270.00 |
| 10 | Sewage system incl. sewage treatment plant at admin building site Harnora | - | 20.00 | - | - | - | 20.00 |
| 11 | Restoration/ protection works & surfacing works: Maitri setu to PWD road junction to bottom outlet on right bank. Construction of approach road to CISF main gate in front of FQA lab & peripheral road & other roads at Harnoda | 40.00 | 160.00 | 200.00 | - | - | 400.00 |
| 12 | Right bank Protection work of river Satluj from Maitri setu to Diversion tunnel | 150.00 | 400.00 | 200.00 | 100.00 | - | 850.00 |
| 13 | Construction of Retaining wall/ protection work along Left bank of River | 100.00 | 100.00 | 100.00 | - | - | 300.00 |
| 14 | Removal of Boulders from River to lower down the River Bed to avoid Head Loss | 85.00 | 95.00 | 20.00 | - | - | 200.00 |



| S. No | Work/ Equipment's | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
|--|---|----------------|-----------------|----------------|----------------|----------------|-----------------|
| 15 | Additional Protection work in Plunge pool area | 200.00 | 400.00 | 300.00 | 200.00 | 200.00 | 1300.00 |
| 16 | Diversion Tunnel related Additional Works | - | - | 800.00 | 100.00 | - | 900.00 |
| 17 | Plant/ Infra related Misc works (Dam-Misc works) | - | 300.00 | 300.00 | 100.00 | 200.00 | 900.00 |
| 18 | MBOA Items | 100.00 | 200.00 | 200.00 | 100.00 | 100.00 | 700.00 |
| Sub Total (A) | | 2225.00 | 8915.00 | 4030.00 | 1380.00 | 1350.00 | 17900.00 |
| (B) Works beyond the original scope and excluding change in law works | | | | | | | |
| 19 | Additional dewatering Pumps in Power House | - | 175.00 | - | - | - | 175.00 |
| 20 | Integrated Security System related works incl Civil works | - | 1800.00 | 400.00 | - | - | 2200.00 |
| 21 | Early warning, Fire Detection and alarm System | - | 60.00 | 50.00 | - | - | 110.00 |
| 22 | Closed Ckt. TV camera | 5.00 | 70.00 | 30.00 | - | - | 105.00 |
| Sub Total (B) | | 5.00 | 2105.00 | 480.00 | - | - | 2590.00 |
| (C) Works beyond the original scope and under change in law | | | | | | | |
| 23 | Energy Conservation - LED lights | 15.00 | 20.00 | 20.00 | 20.00 | - | 75.00 |
| 24 | Energy Conservation - Solar PV Plant | 55.00 | 260.00 | 170.00 | 100.00 | - | 585.00 |
| Sub Total (C) | | 70.00 | 280.00 | 190.00 | 120.00 | - | 660.00 |
| Total Claimed | | 2300.00 | 11300.00 | 4700.00 | 1500.00 | 1350.00 | 21150.00 |

8. We now examine the additional capital expenditure claimed by the Petitioner for the period 2019-24, in the following paragraphs.

(A) Additional capital expenditure within the original scope, but claimed beyond the cut-off date

9. The Petitioner has claimed total projected additional capital expenditure of Rs.17900.00 lakh, towards items/works (under sl nos 1 to 18 of the table under para 8 above) under Regulation 25(1) read with Regulation 76 (Power to relax) of the 2019 Tariff Regulations. The Petitioner has submitted that these works/assets form part of the original scope of work and the Commission, had also considered the claim of the Petitioner in Petition No. 228/MP/2018, wherein, by order dated 13.3.2019, liberty



was granted to the Petitioner as under:

'the Petitioner in this Petition has submitted that total expenditure of Rs. 35191 lakh towards majority of works like Protection work on downstream of the dam, Plunge pool work, Land compensation, Township construction, admin building internal roads & area development etc., are in progress and are likely to be completed by the year 2019-20. Since majority of the works within the original scope are in progress and are likely to be completed only during the year 2019-20, we find no reason to keep this Petition pending. The Petitioner may however claim the capitalization of expenditure in respect of these works, as and when incurred, in terms of the provisions of the 2019 Tariff Regulations and the same will be considered in accordance with law'.

10. The Petitioner has further submitted that though the cut-off date of the generating station is 31.3.2018, there were certain issues that disrupted the scheduled COD of the generating station and the 'consequent and cascading' effect of such delay in the original schedule of project reflected heavily on the schedule of the non-COD related balance works. Accordingly, it has submitted that the balance works were displaced from the timeline of completion with respect to the cut-off date, which was beyond the control of the Petitioner. The Petitioner has stated that the majority of the above-mentioned works are non-COD related balance works. It has also furnished detailed reasons as to why the additional capitalisation of certain schemes got delayed beyond the cut-off date. The Petitioner has also prayed for relaxation of the cut-off date up to March, 2024 in order to complete the above said works.

11. The Respondent UPPCL has submitted that the Petitioner has claimed the capitalization of certain additional expenditure on account of civil construction viz. township, staff quarters, office building etc., over a period of 2-3 years. In this regard, the Respondent has stated that the benefits from these civil constructions will come in only when the same is complete and put to use. Since tariff is not allowed on the capital work-in-progress, instead of the year-wise capitalization sought, the same



may be allowed from the year when such assets are put to use.

12. The matter has been examined. As regards the additional capital expenditure claimed within the original scope, but after the cut-off date i.e. 31.3.2018, it is observed that the Commission vide order dated 5.10.2023 in Petition No. 363/ GT/ 2020, had allowed the same in 2018-19 observing as under:

“20. The Commission vide its order dated 13.3.2019 in Petition No.228/MP/2018 filed by the Petitioner seeking extension of the cut-off date, had granted liberty to the Petitioner to claim additional capitalization in respect of the proposed works as and when incurred, in terms of the provisions of the 2019 Tariff Regulations, and observed that the same will be considered in accordance with law. Since the works claimed for additional capitalization for 2018-19 is within the original scope of work, the amount of Rs.4124.99 lakh (Rs.4522.76 lakh minus Rs.397.77 lakh), excluding claim of initial spares, is allowed for 2018-19.”

13. It is noticed that the Petitioner, in this Petition, has claimed the projected additional capital expenditure under this head for works/assets within the original scope, over and above the assets/works as submitted in Petition No. 228/MP/2018.

14. As regards the submission of the Petitioner to extend the cut-off date, it is to mention that there is no provision in the 2019 Tariff Regulations for extension of cut-off date of the generating station. However, keeping in view that the projected additional capital expenditure of Rs.17900.00 lakh claimed (in sl. nos. 1 to 18 of the table under para 8 above), by the Petitioner, form part of the original scope of work, but could not be completed which are part of original scope, we are inclined to allow the additional capitalisation of works/ items after the cut-off date under Regulation 24(1)(b) read with Regulation 76 of the 2019 Tariff Regulations, which forms part of the original scope of work, but could not be executed/ completed, for the reasons mentioned. This is however subject to the submission of the following details/information by the Petitioner, at the time of truing up of tariff:



- i. Balance cost available for original scope of works.
- ii. Reconciliation of the projected assets/works with original scope of works giving details of original approved cost, expenditure claimed till date, balance to be claimed and reason for increase in cost from initial approval, if any.
- iii. A certificate to the effect that the expenditure claimed for are for asset/works which are put to use.

15. In view of above, the total projected additional capital expenditure allowed in respect of the works (under sl nos. 1 to 18) are summarised below:

(Rs. in lakh)

| S. No | Work/ Equipment | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
|--|--|---------|---------|---------|---------|---------|---------|
| Works within the Original scope | | | | | | | |
| 1 | Private Land (Freehold) | 300.00 | 200.00 | 200.00 | 0.00 | 0.00 | 700.00 |
| 2 | Land Acquisition Office Admin expenses | 60.00 | 60.00 | 60.00 | 60.00 | 50.00 | 290.00 |
| 3 | Land Reference Cases | 700.00 | 1100.00 | 900.00 | 400.00 | 500.00 | 3600.00 |
| 4 | R&R Works | 250.00 | 300.00 | 300.00 | 200.00 | 200.00 | 1250.00 |
| 5 | Local Area Development Fund (LADF) | 0.00 | 4600.00 | 0.00 | 0.00 | 0.00 | 4600.00 |
| 6 | Construction of Balance Quarters, misc. township works & other associated facilities at township | 20.00 | 280.00 | 100.00 | 100.00 | 100.00 | 600.00 |
| 7 | Implementation of Buildings: Admin Building, CISF Barracks, Armory, Gate Complex, CISF B Type Quarters, Internal Roads/Pathways/Culvert, auditorium completion, visitor gallery etc. | 200.00 | 600.00 | 200.00 | 0.00 | 0.00 | 1000.00 |
| 8 | Plant Boundary Wall & Fencing | 20.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.00 |
| 9 | Permanent water supply scheme | 0.00 | 100.00 | 150.00 | 20.00 | 0.00 | 270.00 |
| 10 | Sewage system incl. sewage treatment | 0.00 | 20.00 | 0.00 | 0.00 | 0.00 | 20.00 |



| S. No | Work/ Equipment | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
|-------|--|----------------|----------------|----------------|----------------|----------------|-----------------|
| | plant at admin building site Harnora | | | | | | |
| 11 | Restoration/ protection works & surfacing works: Maitri Setu to PWD road junction to bottom outlet on right bank. Construction of approach road to CISF main gate in front of FQA lab & peripheral road & other roads at Harnoda | 40.00 | 160.00 | 200.00 | 0.00 | 0.00 | 400.00 |
| 12 | Right bank Protection work of river Satluj from Maitri setu to Diversion tunnel | 150.00 | 400.00 | 200.00 | 100.00 | 0.00 | 850.00 |
| 13 | Construction of Retaining wall/ protection work along Left bank of River | 100.00 | 100.00 | 100.00 | 0.00 | 0.00 | 300.00 |
| 14 | Removal of Boulders from River to lower down the River Bed to avoid Head Loss | 85.00 | 95.00 | 20.00 | 0.00 | 0.00 | 200.00 |
| 15 | Additional Protection work in Plunge pool area | 200.00 | 400.00 | 300.00 | 200.00 | 200.00 | 1300.00 |
| 16 | Diversion Tunnel related Additional Works | 0.00 | 0.00 | 800.00 | 100.00 | 0.00 | 900.00 |
| 17 | Plant/ Infra related Misc works (Dam-Misc works) | 0.00 | 300.00 | 300.00 | 100.00 | 200.00 | 900.00 |
| 18 | MBOA Items | 100.00 | 200.00 | 200.00 | 100.00 | 100.00 | 700.00 |
| | Total allowed | 2225.00 | 8915.00 | 4030.00 | 1380.00 | 1350.00 | 17900.00 |

(B) Additional capital expenditure for work beyond the original scope, excluding the change in law claims

16. The Petitioner has claimed total projected additional capital expenditure for Rs.2590.00 lakh i.e. Rs.175.00 lakh in 2020-21 towards Additional Dewatering Pumps in Power House, Rs.1800.00 lakh in 2020-21 and Rs.400.00 lakh in 2021-22 towards Integrated Security System related works Including Civil Works, Rs.60.00



lakh In 2020-21 and Rs.50.00 lakh in 2021-22 towards Early Warning system, Fire Detection & Alarm system and Rs.5.00 lakh in 2019-20, Rs.70.00 lakh in 2020-21 And Rs.30.00 lakh in 2021-22 towards Closed Circuit TV camera, under Regulation 26(1)(d) of the 2019 Tariff Regulations. As regards the claim for additional capitalisation for dewatering Pumps in Power House, the Petitioner has submitted that these works are needed for higher security & safety of the plant as / directed by Indian Government Instrumentality/statutory authorities responsible for national and internal security and also as per CEA recommendations towards measures to avoid flooding of the stations. As regards the claim for Integrated Security System related works including Civil works, Early warning system, Fire detection and alarm system and CCTV camera, the Petitioner has submitted that for enhancement & automation of security at the power station and in view of the constant threat to the station, as per reports from external agencies, the Petitioner, in collaboration with the CISF, has prepared a comprehensive multilayer e-security system, to be installed in various power stations across the country, including this station during the period 2019-24. It has also submitted that the e-security system shall not only enhance the reliability of the security system, but will also help to rationalise the security manpower at the station.

17. The matter has been examined. The Petitioner has claimed additional capital expenditure for this asset, under Regulation 26(1)(d) of the 2019 Tariff Regulations. However, the Petitioner has not submitted the required documents, in compliance to the said regulation under which the claim has been made. Keeping in view that the projected additional capital expenditure claimed is for the safety and security of the generating station, the claim is allowed under Regulation 26(1)(d) of the 2019 Tariff



Regulations. The Petitioner is however, directed to furnish the relevant documents at the time of truing up of tariff, failing which the expenditure may not be considered .

(C) Additional capital expenditure of work beyond the original scope and under Change in law

18. The Petitioner has claimed total projected additional capital expenditure of Rs.660.00 lakh towards items/works (at sl nos. 23 & 24 in the table under para 8 above), under Regulation 26(1)(b) of the 2019 Tariff Regulations. As regards the claim for Energy Conservation - LED lights, the Petitioner has submitted that the Hon'ble Prime Minister of India, on 5.1.2015, had launched a National LED Programme with an objective to reduce energy consumption by using energy efficient lighting. In line with the objective, Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme is being implemented by EESL. The Petitioner has submitted that through MOP, GoI vide letter dated 2.8.2017, it was mandated to replace all old bulbs with LED bulbs in all NTPC buildings including compound/ street lighting occupied by the Petitioner. The Petitioner has further submitted that in order to comply with the said directions of the GOI in its letter dated 2.8.2017, it had undertaken the work of replacing the old in-efficient lights with efficient LED lighting in the premises of the generating station compound/ building owned and operated by the Petitioner. As regards the claim for Energy Conservation-Solar PV Plant, the Petitioner has submitted that 1000 KW solar Power Station has been proposed to be installed with a prayer to approve the additional capitalisation towards promotion of green power.

19. The Respondent UPPCL has submitted that as part of energy consumption measures, the Petitioner has proposed capitalization towards LED Lights and Solar



PV Plant, which would reduce the auxiliary consumption of the generating station, thereby effectively increasing the quantum of saleable energy and revenue. Hence the Respondent has submitted that the same may not be considered as part of the capital expenditure but under the O&M expenses and that the revenue from sale of such energy savings in auxiliary consumption would likely be utilized to meet the funding requirement for such energy consumption measures as stated above. In response, the Petitioner has submitted that the said proposed capital expenditure for LED Electrification flows out of the direction issued by the MOP, GOI with an objective to reduce the energy consumption by using energy efficient lighting and any direction of the GOI, is required to be implemented, having the force of law. The Petitioner has further submitted that the installation of Roof top solar at the station would reduce the greenhouse gas emissions and the benefits in shape of reduced auxiliary power consumption would be reaped by the beneficiaries including the Respondent UPPCL.

20. The matter has been considered. In our view, the MOP, GOI letter is recommendatory in nature and cannot be construed as a 'change in law' event or compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting system, accrues to the Petitioner. In view of this, the additional capital expenditure claimed on account of installation of LED lighting system is not allowed. Similar view has been taken by the Commission while considering the claims of the Petitioner in respect of some of its other generating stations for the period 2019-24. As regards the claim for Energy Conservation-Solar PV Plant, on the ground that the same is on the basis of the Central Government's resolve to promote renewable energy, the same cannot be construed as a change in



law event to permit additional capitalisation. Accordingly, the claim of the Petitioner is not allowed.

21. Based on the above, the projected additional capital expenditure allowed for the period 2019-24 is summarised below:

(Rs. in lakh)

| Head | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
|---|----------------|-----------------|----------------|----------------|----------------|-----------------|
| Additional capital expenditure of original scope claimed beyond the cut-off date | 2225.00 | 8915.00 | 4030.00 | 1380.00 | 1350.00 | 17900.00 |
| Additional capital expenditure work beyond original Scope and excluding Change in Law works | 5.00 | 2105.00 | 480.00 | 0.00 | 0.00 | 2590.00 |
| Additional capital expenditure of work beyond original Scope and under Change in Law | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total additional capital expenditure allowed on projection basis | 2230.00 | 11020.00 | 4510.00 | 1380.00 | 1350.00 | 20490.00 |

22. The additional capital expenditure as allowed above is eligible for return on equity at normal rate.

Capital Cost allowed for the period 2019-24

23. In view of the above, the capital cost allowed for the purpose of tariff for the period 2019-24 is as under:

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|------------------------------|------------------|------------------|------------------|------------------|------------------|
| Opening Capital cost | 703834.96 | 706064.96 | 717084.96 | 721594.96 | 722974.96 |
| Net Addition during the year | 2230.00 | 11020.00 | 4510.00 | 1380.00 | 1350.00 |
| Closing Capital cost | 706064.96 | 717084.96 | 721594.96 | 722974.96 | 724324.96 |
| Average capital cost | 704949.96 | 711574.96 | 719339.96 | 722284.96 | 723649.96 |

Debt-Equity Ratio

24. Regulations 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.”

25. The debt-equity ratio of 70:30 has been applied on the year-wise admitted additional capital expenditure for arriving at the additions to loan and equity during each year of the period 2019-24. Accordingly, the details of the debt and equity in respect of the generating station are as under:



(Rs. in lakh)

| | As on 31.3.2019 | | Additional Capital Expenditure in 2019-24 | | As on 31.3.2024 | |
|--------------|------------------|------------|---|-------------|------------------|-------------|
| | Amount | % | Amount | % | Amount | % |
| Debt | 492684.47 | 70 | 14343.00 | 70% | 507027.47 | 70% |
| Equity | 211150.49 | 30 | 6147.00 | 30% | 217297.49 | 30% |
| Total | 703834.96 | 100 | 20490.00 | 100% | 724324.96 | 100% |

Return on Equity

26. Regulations 30 of the 2019 Tariff Regulations provide as follows:

“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 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.”

27. Regulation 31 of the 2019 Tariff Regulations provide as follows:

“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:

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

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

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$

(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 FY 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.”

28. The Petitioner has claimed Return on Equity (ROE) considering base rate of 16.50% and effective tax rate of 17.472% for the opening equity, as on 1.4.2019 and projected additional capital expenditure claimed under original scope of works. The same has been considered for the purpose of tariff. Further, for additional capital expenditure claimed beyond the original scope of work (excluding additional capital expenditure due to change in law) the Petitioner has claimed ROE after grossing up



weighted average rate of interest claimed in the Petition for the respective years of the period 2019-24 with the effective tax rate of 17.472%. Accordingly, ROE at the normal rate has been worked out as under:

| | <i>(Rs. in lakh)</i> | | | | |
|--|----------------------|-----------------|-----------------|-----------------|-----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Normative Equity - Opening | 211150.49 | 211817.99 | 214492.49 | 215701.49 | 216115.49 |
| Addition of Equity due to additional capital expenditure | 667.50 | 2674.50 | 1209.00 | 414.00 | 405.00 |
| Normative Equity - Closing | 211817.99 | 214492.49 | 215701.49 | 216115.49 | 216520.49 |
| Average Normative Equity | 211484.24 | 213155.24 | 215096.99 | 215908.49 | 216317.99 |
| Return on Equity (Base Rate) | 16.50% | 16.50% | 16.50% | 16.50% | 16.50% |
| Effective Tax Rate | 17.472% | 17.472% | 17.472% | 17.472% | 17.472% |
| Rate of Return on Equity | 19.993% | 19.993% | 19.993% | 19.993% | 19.993% |
| Return on Equity (Pre-tax) – (annualized) | 42282.04 | 42616.13 | 43004.34 | 43166.58 | 43248.46 |

29. The ROE allowable at WAROI is as follows:

| | <i>(Rs. in lakh)</i> | | | | |
|--|----------------------|--------------|--------------|--------------|--------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Gross Notional Equity | 0.00 | 1.50 | 633.00 | 777.00 | 777.00 |
| Addition due to additional capitalization | 1.50 | 631.50 | 144.00 | 0.00 | 0.00 |
| Closing Notional Equity | 1.50 | 633.00 | 777.00 | 777.00 | 777.00 |
| Average Equity | 0.75 | 317.25 | 705.00 | 777.00 | 777.00 |
| Weighted average rate of interest on actual loan portfolio | 8.1339% | 8.0990% | 8.0809% | 8.1854% | 8.2878% |
| Tax rate for the year | 17.472% | 17.472% | 17.472% | 17.472% | 17.472% |
| Rate of Return on Equity | 9.856% | 9.814% | 9.792% | 9.918% | 10.042% |
| Return on Equity (Pre-tax) – (annualized) | 0.07 | 31.13 | 69.03 | 77.07 | 78.03 |

30. Accordingly, total ROE allowed has been worked out as under:

| | <i>(Rs. in lakh)</i> | | | | |
|---|----------------------|-----------------|-----------------|-----------------|-----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Return on Equity (Pre-tax) – (annualized) – Normal Rate | 42282.04 | 42616.13 | 43004.34 | 43166.58 | 43248.46 |
| Return on Equity (Pre-tax) – (annualized) – WAROI Rate | 0.07 | 31.13 | 69.03 | 77.07 | 78.03 |
| Total Return on Equity | 42282.12 | 42647.26 | 43073.37 | 43243.65 | 43326.49 |

Interest on Loan

31. Regulation 32 of the 2019 Tariff Regulations provides as follows:

“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 de-capitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-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.”

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

- a. The gross normative loan, cumulative repayment and net opening normative loan amounting to Rs.492684.47 lakh, Rs.122373.32 lakh and Rs.370311.15 lakh, respectively, as on 31.3.2019 as considered in order dated 5.10.2023 in Petition No. 363/GT/2020 has been retained as on 1.4.2019;
- b. Weighted average rate of interest (WAROI) as claimed by the Petitioner has been retained for the purpose of tariff;
- c. The repayments for the respective years of the period 2019-24, has been considered equal to the depreciation allowed for that year.

33. 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) | 492684.47 | 494245.47 | 501959.47 | 505116.47 | 506082.47 |



| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Cumulative repayment of loan upto previous year (B) | 122373.32 | 156368.59 | 190683.33 | 225372.54 | 260203.76 |
| Net Loan Opening (C = A-B) | 370311.15 | 337876.89 | 311276.14 | 279743.94 | 245878.72 |
| Repayment of loan during the year (D) | 33995.26 | 34314.75 | 34689.20 | 34831.22 | 34897.05 |
| Cumulative repayment adjustment on a/c of de-capitalization (E) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Net Repayment (F = D-E) | 33995.26 | 34314.75 | 34689.20 | 34831.22 | 34897.05 |
| Addition due to additional capital expenditure (G) | 1561.00 | 7714.00 | 3157.00 | 966.00 | 945.00 |
| Net Loan Closing (H = C+G-F) | 337876.89 | 311276.14 | 279743.94 | 245878.72 | 211926.67 |
| Average Loan [I = (C+H)/2] | 354094.02 | 324576.51 | 295510.04 | 262811.33 | 228902.69 |
| WAROI (J) | 8.1339% | 8.0990% | 8.0809% | 8.1854% | 8.2878% |
| Interest on Loan (K = I x J) | 28801.71 | 26287.54 | 23879.80 | 21512.25 | 18971.08 |

Depreciation

34. Regulation 33 and Regulation 72 (2) (iii) 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 upto 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.”

35. The Petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 4.8224% for the period 2019-24 and the same has been considered. Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|----------------|----------------|----------------|----------------|----------------|
| Average capital cost (A) | 704949.96 | 711574.96 | 719339.96 | 722284.96 | 723649.96 |
| Value of freehold land (other than for reservoir) included above (B) | 15624.32 | 15624.32 | 15624.32 | 15624.32 | 15624.32 |
| Depreciable value [C = 0.9 x (A-B)] | 620393.08 | 626355.58 | 633344.08 | 635994.58 | 637223.08 |
| Balance depreciable value (D = C – 'I' of previous year) | 498019.75 | 469986.99 | 442660.74 | 410622.04 | 377019.32 |
| WAROD (E) | 4.8224% | 4.8224% | 4.8224% | 4.8224% | 4.8224% |
| Balance useful life at the beginning of the year (F) | 31.30 | 30.30 | 29.30 | 28.30 | 27.30 |
| Depreciation (G = A x E) | 33995.26 | 34314.75 | 34689.20 | 34831.22 | 34897.05 |
| Cumulative depreciation adjustment on account of de-capitalization (H) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|-----------|-----------|-----------|-----------|-----------|
| Cumulative depreciation at the end of the year (l) * | 156368.59 | 190683.33 | 225372.54 | 260203.76 | 295100.80 |

* Cumulative depreciation as on 31.3.2019, as considered in order dated 5.10.2023 in Petition No. 363/GT/2020, is Rs.122373.32 lakh.

Operation & Maintenance Expenses

36. The Petitioner has claimed the following total O&M expenses:

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Normative O&M expenses claimed under Regulation 35(2)(a) of the 2019 Tariff Regulations (a) | 12659.94 | 13263.39 | 13895.59 | 14557.93 | 15251.84 |
| Additional O&M Expenses claimed under Note to Regulation 35(2) read with corrigendum dated 15.3.2019 | | | | | |
| Impact of GST (b) | 179.82 | 179.82 | 179.82 | 179.82 | 179.82 |
| Impact of Wage Revision (c) | 1770.28 | 1770.28 | 1770.28 | 1770.28 | 1770.28 |
| Security expenses(d) | 1967.00 | 2036.00 | 2107.00 | 2181.00 | 2257.00 |
| Total O&M Expenses (e) | 16577.04 | 17249.49 | 17952.69 | 18689.03 | 19458.94 |

37. Regulation 35(2)(a) of the 2019 Tariff Regulations provides for O&M expenses for this generating station as under:

“35(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 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <i>Koldam</i> | <i>12659.94</i> | <i>13263.39</i> | <i>13895.59</i> | <i>14557.93</i> | <i>15251.84</i> |

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

38. As the O&M expenses claimed by the Petitioner above, is in accordance with Regulation 35(2)(a) of the 2019 Tariff Regulations, the same is allowed.

Additional O&M expenses

Impact of GST

39. The Petitioner has claimed following additional O&M expenses:

(Rs in lakh)

| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---------|---------|---------|---------|---------|
| 179.82 | 179.82 | 179.82 | 179.82 | 179.82 |



40. The Petitioner has submitted that as per “note” to Regulation 35(2)(a) read with corrigendum dated 15.3.2019 for the 2019 Tariff Regulations, the impact in respect of revision of pay, minimum wages and GST on O&M expenses is to be considered at the time of determination of tariff.

41. The Respondent UPPCL has submitted that no supporting documentary evidence nor any detail have been furnished in support of the claims of the Petitioner and in absence of the above documents, the claim may not be allowed, as of now since adequate prudence check for such upward revision cannot be taken. The Respondent has further stated that upon submission of adequate details, the same may be considered at the time of true-up for 2019-24, subject to prudence check. In response, the Petitioner has submitted that it is claiming the proposed impact of GST based on 2018-19 data subject to retrospective adjustment based on actuals at the time of true-up.

42. The matter has been considered. It is observed that the Petitioner vide affidavit dated 21.8.2021 in Petition No. 363/GT/2020 has submitted the following information in respect of GST incurred during 2017-18 and 2018-19.

(Rs in lakh)

| Nature | | 2017-18 (Q2-Q4) | 2018-19 |
|--|---------------|---------------------------|---------------|
| | | Post GST period Claimable | GST Claimable |
| Material | A | 285.80 | 402.92 |
| Services- Taxable | B | 5068.78 | 7073.00 |
| Services- Exempt | C | 4026.78 | 4765.71 |
| Total General Administration Expenses | D=A+B+C | 9381.37 | 12241.62 |
| Impact of 3% additional tax on Taxable Services due to GST | E=B*0.03/1.18 | 128.87 | 179.82 |
| Total Claim | | | 308.69 |



43. As per note under Regulation 35(2)(a) of the 2019 Tariff Regulations, the impact in respect of revision of pay / wage and GST is also required to be considered at the time of determination of tariff for the period 2019-24. As per Para 10.7.4 of the Statement of Reasons to the 2019 Tariff Regulations, in case of hydro generating stations, the O&M expenses norms are provided for each of the generating stations in absolute terms, i.e. Rs in lakh/year. As it was not practicable to derive a common impact for all the hydro generating stations on account of employees pay revision, escalation in minimum wages and GST, it was decided that the Impact on O&M expenses due to these components shall be considered for each generating station separately at the time of determination of tariff for the period 2019- 24. Accordingly, the allowable impact of GST, as projected by the Petitioner in addition to the normative O&M expenses is allowed in accordance with Regulation 35(2)(a) of the 2019 Tariff Regulations subjected to prudence check at the time of truing up. Further, the Petitioner is directed to submit detailed computation of impact of GST at the time of truing up, along with relevant documents including auditor certified statement.

Impact of wage revision

44. The Petitioner has claimed an amount of Rs.8851.40 lakh (Rs.1770.28 lakh for each year for the period 2019-24,) as impact of pay revision of Employees w.e.f. 1.1.2017 and that of CISF w.e.f. 1.1.2016 for the generating station. It has further submitted that as per “note” to Regulation 35(2)(a) read with the corrigendum dated 15.3.2019 issued to the 2019 Tariff Regulations, the impact in respect of revision of pay revision, minimum wage on O&M expenses is to be considered at the time of determination of tariff.



45. The Respondent UPPCL has submitted that no supporting documentary evidence nor any details viz. details of manpower, existing pay, revised pay etc. have been furnished in support of the claims and therefore in absence of the above documents, the total claims on account of additional O&M expenditure may not be allowed, as of now since adequate prudence for such upward revision cannot be taken. Upon submission of adequate details, the same may be considered at the time of true-up for 2019-24, subject to prudence check. In response, the Petitioner has submitted that it is claiming the proposed impact in respect of pay-revision based on 2018-19 data, subject to retrospective adjustment based on actuals at the time of trueing up.

46. The matter has been considered. As regards the impact of wage revision, Regulation 35(2)(a) of the 2019 Tariff Regulations provides for O&M expenses for this generating station as under:

“35(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:

| | <i>(Rs. in lakh)</i> | | | | |
|---------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| | <i>2019-20</i> | <i>2020-21</i> | <i>2021-22</i> | <i>2022-23</i> | <i>2023-24</i> |
| <i>Koldam</i> | <i>12659.94</i> | <i>13263.39</i> | <i>13895.59</i> | <i>14557.93</i> | <i>15251.84</i> |

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

xxx

(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 trueing-up of tariff with appropriate justification.”

47. The Petitioner in the present petition has claimed the impact of wage revision Rs.1770.28 lakh for each year for the period 2019-24, based on the impact of wage revision of Rs. 1770.28 lakh during the year 2018-19. It is noticed that, the Petitioner in Petition No. 363/GT/2020 had claimed impact of wage revision of Rs. 1770.28 lakh (Rs. 1430.07 lakh for its employees and Rs. 340.21 lakh for CISF staff) for the



generating station. With regard to impact of wage revision of CISF staff, the same has been considered under para 49 under additional O&M expenses. With regard to impact of wage revision, the Petitioner is directed to approach the Commission for the same at the time of truing up of tariff along with relevant documents (as contended by Respondent in para 45 above) including the auditor certified statement and the same would be considered as per the 2019 Tariff Regulations.

Security Expenses

48. Regulation 35(2) (c) of the 2019 Tariff 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 of tariff with appropriate justification.”

49. The Petitioner has claimed Security expenses as part of the O&M expenses in terms of Regulation 35(2)(c) of the 2019 Tariff Regulations as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 1967.00 | 2036.00 | 2107.00 | 2181.00 | 2257.00 |

50. The Respondent UPPCL has submitted that as per Regulation 35(2)(c) of 2019 Tariff Regulations, Security expenses and Capital spares for hydro generating stations are to be allowed separately after prudence check. Accordingly, a separate petition for the same is required to be filed by the Petitioner and in the absence of the above, the Commission may not allow any ad-hoc expenditure on account of security expenses based on certain estimated expenditure for the period 2019-24, since it will be against the spirit of Regulation 35(2)(c) of 2019 Tariff Regulations. In response, the Petitioner has submitted that the Commission had allowed the projected security expenses vide its order dated 12.12.2021 in Petition No. 438/GT/2020 (NTPC v



UPPCL) . It has further submitted that it has claimed the security expenses on similar lines, based on the estimated/projected expenses for the period 2019-24 and the same shall be subject to retrospective adjustment, based on actuals, along with the relevant supporting documents, at the time of truing up of tariff.

51. The matter has been considered. In terms of the said regulations, the projected security expenses claimed by the Petitioner is allowed. However, the Petitioner shall, at the time of truing up of tariff, furnish the actual security expenses incurred along with proper justification and the same shall be examined in terms of the said Regulations.

Capital Spares

52. The Petitioner has not claimed any capital spares for the period 2019-24 and has submitted the same shall be claimed at the time of truing up of tariff. In view of this, capital spares shall be considered, based on the actual expenses incurred, at the time of truing-up of tariff of the generating station.

Interest on Working Capital

53. Regulation 34(1)(c) of the 2019 Tariff Regulations provide 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 expenses including security expenses; and
(iii) Operation and maintenance expenses, including security expenses for one month..”*

54. Clause (3) and (4) of the Regulation 34 of the 2019 Tariff Regulations provide as under:

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 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 triuing-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.

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

Working capital towards O&M Expenses

55. The O&M expenses for 1 (one) month claimed by the Petitioner for the purpose of working capital is as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 1381.42 | 1437.46 | 1496.06 | 1557.42 | 1621.58 |

56. The O&M expenses for 1 (one) month are allowed as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 1233.90 | 1289.93 | 1348.53 | 1409.90 | 1474.06 |

Working capital towards Maintenance Spares

57. The Petitioner has claimed the maintenance spares in the working capital as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 2486.56 | 2587.42 | 2692.90 | 2803.35 | 2918.84 |

58. Maintenance spares for the purpose of interest on working capital in accordance with Regulation 34(1)(c)(ii) of the 2019 Tariff Regulations, has been allowed as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 2221.01 | 2321.88 | 2427.36 | 2537.81 | 2653.30 |

Working capital for Receivables

59. Receivables equivalent to 45 days of annual fixed cost are worked out and allowed as under:



(Rs. in lakh)

| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|----------|----------|----------|----------|----------|
| 15013.69 | 14894.47 | 14766.38 | 14603.89 | 14398.32 |

Rate of Interest for Working Capital

60. In line with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for the year 2019-20, 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for the year 2020-21, 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 1.4.2021 / 1.4.2022 + 350 bps) for the period 2021-23 and 12.00% (i.e. 1 year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for 2023-24. 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 | 1233.90 | 1289.93 | 1348.53 | 1409.90 | 1474.06 |
| Working capital for Maintenance Spares | 2221.01 | 2321.88 | 2427.36 | 2537.81 | 2653.30 |
| Working capital for Receivables | 15013.69 | 14894.47 | 14766.38 | 14603.89 | 14398.32 |
| Total Working Capital | 18468.60 | 18506.29 | 18542.27 | 18551.60 | 18525.68 |
| Rate of Interest | 12.05% | 11.25% | 10.50% | 10.50% | 12.00% |
| Interest on Working Capital | 2225.47 | 2081.96 | 1946.94 | 1947.92 | 2223.08 |

Annual Fixed charges for the period 2019-24

61. Accordingly, 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 | 33995.26 | 34314.75 | 34689.20 | 34831.22 | 34897.05 |
| Interest on Loan | 28801.71 | 26287.54 | 23879.80 | 21512.25 | 18971.08 |
| Return on Equity | 42282.12 | 42647.26 | 43073.37 | 43243.65 | 43326.49 |
| Interest on Working Capital | 2225.47 | 2081.96 | 1946.94 | 1947.92 | 2223.08 |
| O&M Expenses | 14806.76 | 15479.21 | 16182.41 | 16918.75 | 17688.66 |
| Total | 122111.32 | 120810.71 | 119771.72 | 118453.79 | 117106.35 |

Normative Annual Plant Availability Factor (NAPAF)

62. Regulation 50 (A)(4) of the 2019 Tariff Regulations provides for the NAPAF of 90% for hydro generating stations. Accordingly, NAPAF of 90% has been considered for the generating station for the period 2019-24, as claimed by the Petitioner.



Design Energy

63. The Design Energy (DE) of the generating station as approved by CEA is 3054.79 MUs. The Commission vide its order dated 5.10.2023 in Petition No.363/GT/2020, had allowed the annual DE of 3054.79 MUs for the period 2014-19, for this generating station. Accordingly, for the period 2019-24, 3054.79 DU is allowed as per month-wise details as under:

| Month | | Design Energy (MUs) |
|--------------|-----|----------------------------|
| April | I | 59.21 |
| | II | 57.80 |
| | III | 89.80 |
| May | I | 103.87 |
| | II | 186.01 |
| | III | 206.82 |
| June | I | 64.92 |
| | II | 171.32 |
| | III | 118.63 |
| July | I | 155.60 |
| | II | 192.00 |
| | III | 211.20 |
| August | I | 192.00 |
| | II | 192.00 |
| | III | 211.20 |
| September | I | 129.86 |
| | II | 93.03 |
| | III | 71.50 |
| October | I | 46.88 |
| | II | 44.33 |
| | III | 41.29 |
| November | I | 30.49 |
| | II | 27.94 |
| | III | 25.39 |
| December | I | 24.48 |
| | II | 24.48 |
| | III | 26.93 |
| January | I | 24.48 |
| | II | 24.48 |
| | III | 26.93 |
| February | I | 24.48 |



| Month | | Design Energy (MUs) |
|--------------|-----|---------------------|
| | II | 24.48 |
| | III | 19.58 |
| March | I | 24.48 |
| | II | 39.39 |
| | III | 47.51 |
| Total | | 3054.79 |

Application filing fee and publication expenses

64. The Petitioner has sought reimbursement of fees paid by it for filing the petition and for publication expenses and has submitted that the reimbursement of the same are in accordance in terms of the Regulation 70(1) of the 2019 Tariff Regulations. In view of the above, the Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the filing of this petition, directly from the beneficiaries, on pro-rata basis, in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

65. 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.

Summary

66. The annual fixed charges claimed and allowed for the period 2019-24 for the generating station, is summarized as under:

| | <i>(Rs. in lakh)</i> | | | | |
|----------------|----------------------|------------------|------------------|------------------|------------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Claimed | 123255.06 | 122152.54 | 121311.44 | 120033.94 | 118428.45 |
| Allowed | 122111.32 | 120810.71 | 119771.72 | 118453.79 | 117106.35 |



67. Petition No. 412/GT/2020 is disposed in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member

