



1.3. R&M, Refurbishment & Up-rating Program

1.3.1. The Commission has approved an R&M of Rs. 136.27Crore for Rihand HPS, Rs. 58.80 Crore for Obra HPS, and Rs 10.36 Crore for Matatila as per below:

Table 5 R&M expenses approved by the Commission (in INR Cr.)

HPS	2009-10	2010-11	2011-12	2012-13	2013-14	Reference
Rihand HPS	0.00	45.42	45.42	45.42	0.00	UPERC's order dated 20.10.2011 in petition 661/2010
Matatila HPS	0.00	0.00	0.00	10.36	0.00	
HPS	2014-15	2015-16	2016-17	2017-18	2018-19	Reference
Obra HPS	-58.80	0.00	0.00	45.42	58.80	UPERC's order dated 03.07.2018 in petition 1109/2016

1.3.2. The actual utilization of R&M expenditure for Rihand HPS, Obra HPS, and Matatila HPS will be presented to the Commission during the time of Trueing-up.

1.4. Regulatory Framework

1.4.1. The Uttar Pradesh Electricity Regulatory Commission notified the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2019 on 09th September 2019 being in force for the Control period encompassing the financial years 2019-20 to 2023-24. Further, section 62 (1) of the Electricity Act, 2003 provides that the Appropriate Commission shall determine the tariff in accordance with the provisions of the Act, inter-alia, for the supply of electricity by a generating company to a distribution licensee.

1.4.2. Section 2(1) of the UPERC Generation Regulations, 2019 provides the applicability of such regulations in all cases where tariff for a generating station or a unit thereof is required to be determined by the Commission under Section 62 of the Act read with Section 86 thereof. Accordingly, the Petitioner has claimed the Tariff for its power plant in line with the Multi-Year Regulations approved by the Commission for the Control period encompassing the financial years 2019-20 to 2023-24.

1.4.3. UPJVNL has submitted MYT petition for FY 2019-20 to FY 2023-24 without True-Up petition for FY 2009-10 and onwards as the Commission vide order dated 28th August 2017 in Petition No. 1109/2016 has observed in para 7 along with para

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8 that the transfer scheme of UPJVNL & UJVNL are in process of finalization and the GFA balances will change. This True-Up petition for FY 2009-10 to 2013-14 is immature and the process of finalization of GFA should not delay the tariff determination process. The recite of para 7 and 8 is as follows:

"7. ...However, the transfer scheme of UPJVNL & UJVNL is in process of finalization and the GFA balances are expected to undergo certain changes. Hence UPJVNL has requested the Commission to allow additional submissions for true-up in view of the finalization of the transfer scheme.

8. The Commission has observed that the current True-Up petition for FY 2009-10 to 2013-14 are immature between UPJVNL & UJVNL. Also, the process of finalization of GFA should not delay the tariff determination process for the MYT period FY 2014-15 to 2018-19."

1.4.4. The petitioner submitted here that UPJVNL has started to "declared capacity" of its plant of capacity above 25 MW to the Uttar Pradesh State Load Dispatch Centre as per the 'UI implication and Scheduling' clause mentioned in "Procedures for scheduling, dispatch, energy accounting, UI accounting & settlement system of Open access transactions as per UPERC Order dated 12.9.2011 passed in Petition No. 659/2010". Clause 28(b) of UPERC (Terms and Conditions of Generation Tariff) Regulations 2019 describes the procedure to calculate 'Capacity Charge'.

1.4.5. The petitioner stated that the 'Capacity Charge' is mainly dependent on the '**Plant availability factor achieved during the month (PAFM)**' which is derived from the "Declared Capacity" of plants to Nodal Load Dispatch Centre.

1.4.6. The storage in the case of Obra HPS is dead storage type, as the water level is restricted in order to facilitate water to Obra Thermal Power Station. Further, the units of Pipri Hydro & Obra Hydro are operated in tandem to maintain the level at Obra, thus leaving a very thin margin for the operation of machines at Obra HPS. Khara HPS (3 x 24 MW) is run of river type Hydro Power Plant which is highly dependent on natural run-off. Spring melts will create a lot of energy while dry seasons will create relatively little energy. As a result, UPJVNL many times bound to confirm less "declared capacity" of its plants to UPSLDC although machines are available for generation.

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Table 6 Comparison of PAFM of Obra HPS/ Khara HPS based on Declare Capacity vs Availability factor of a Hydro Power Plant

Period	PAFM of Obra HPS based on (%)	
	Declare Capacity	Availability factor of a Hydro Power Plant
2017-18	54.01%	62.91%
2018-19	48.89%	76.92%
2019-20	28.18%	84.04%
Period	PAFM of Khara HPS based on (%)	
	Declare Capacity	Availability factor of a Hydro Power Plant
2017-18	44.21%	75.42%
2018-19	47.94%	68.86%
2019-20	62.99%	85.71%

Filing petition based on Two-Part Tariff for those powerhouses whose installed capacity is more than 25 MW

1.4.7. The Annual Revenue requirement (ARR) and Multi-Year Tariff of Obra HPS (3x33 MW) & Khara HPS (3x24 MW) for FY 2019-20 to FY 2023-24 are claimed as per UPERC (Terms and Conditions of Generation Tariff), Regulation 2019 which provides norms for calculation of Two-Part tariff. Thus, the Petitioner has filed petition for Monthly Capacity and Energy Charges for Obra HPS and Khara HPS.

Filing petition based on Levelized Tariff for those powerhouses whose installed capacity is less than 25 MW

1.4.8. The petitioner has submitted a petition for determination of the Levelized tariff of Canal based Hydro Power Projects namely Upper Ganga Canal SHP consisting of Nirgazini, Chitaura, Salawa & Bhola Hydro Plants, Belka SHP (2 x 1.5 MW), Babail SHP (2 x 1.5 MW) and Sheetla SHP (3 x 1.2 MW) for FY 2019-20 to FY 2023-24 as per UPERC (Captive and Renewable Energy Generation Plant), Regulation 2019.

1.4.9. The Commission approved the capital cost of Upper Ganga Canal SHP, Belka, and Babail SHP as follows and decided the tariff of these Small Hydropower plants based on capital costs in their earlier Tariff Orders

Table 7 Approved Capital Cost of Upper Ganga Canal SHP, Belka and Babail SHP

Name of Power Station	Agreed Capital Cost (in INR Cr)	Reference
UGC Small Hydropower plant	3.68	UPERC's order dated 03.07.2018 in petition 1109/2016

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Belka Small Hydropower plant	17.92	
Babail Small Hydropower plant	24.21	

1.4.10. UPJVNL has not submitted the tariff petition as per old practice as Upper Ganga Canal SHP, Belka & Babail SHPs are canal-based projects and these canals are regulated according to the Irrigation requirement by Uttar Pradesh Irrigation & Water Resource Department. Over the past few years, the flow and availability of water in these power channels of SHPs have been reduced drastically due to the construction of strategic canals just before the power channels of these SHPs which causes vast generation losses.

2. Record of Proceeding

2.1.1. The Petitioner had submitted Petition No. 1790/2022 on 02.11.2021 for MYT and Annual Revenue Requirement and determination of Tariff for FY 2019-20 to FY 2023-24 for Rihand HPS, Obra HPS, Matatila HPS, Khara HPS, Upper Ganga Canal HPS, Belka HPS, and Babali HPS vide Letter No. 536/SE (Comm)/UPERC/MYT dated 30.10.2021.

2.1.2. The Petitioner vide letter no. 110/SE (comm)/Tariff Petition dated 14.07.2022 submitted the amended petition of Petition No. 1790/2022, in compliance to the Commission's Order dated 08.06.2022 excluding the Rihand and Matatila Power Stations for determination of Tariff for FY 2019-20 to FY 2023-24.

2.1.3. UPPCL vide letter No. 1206/CE/PPA-R dated 01/08/2022 submitted objection/comments on Petition No. 1790/2022 before the Commission which is listed below:

- a) UPPCL submitted that the Petitioner should finalize its GFA and then file True-Up Petition for FY 2014-15 to FY 2018-19 for Obra, Khara, Upper Ganga Canal, Sheetla, Belka, and Babail Hydro Power Plants of UPJVNL. The petitioner has not filed the True Up Petition for the Control Period of FY 2014-19.
- b) UPPCL submitted that the Petitioner has not provided the provisions of the Regulations under which it has claimed Additional Capitalization for the period FY 2019-20 to FY2023-24. Also, the Petitioner has not provided any proper justification, documentary evidence, or scheme-wise details of Additional Capital Expenditure as per the regulatory provisions of the Tariff Regulations, 2019. The Petitioner has not

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submitted the Audited Balance sheet of FY 2014-15 to FY 2018-19 with the instant Petition.

- c) UPPCL also highlighted the fact that the Petitioner has wrongly considered the allowable Depreciation for FY 2018-19 in its AFC for Khara Hydro Power Station whereas, in its Tariff formats, they have considered the Depreciation for FY 2018-19 as approved by the Commission in its order 03-07-2018 for the Petition no. 1109/2016.
- d) The Petitioner has wrongly considered the Depreciable value the same as the Capital Cost for FY 2019-20 to FY2023-24 for Khara Hydro Station. However, para 24(iii)(c) of the Tariff Regulations, 2019 provides that Depreciation shall be allowed up to a maximum of 90% of the Capital Cost of the Asset.
- e) UPPCL submitted that the Petitioner has not provided the details of the schedule of the Loan and rate of interest of 12.25% for the FY 2019-20 to FY2023-24.
- f) UPPCL submitted that for the calculation of operation and maintenance costs for FY 2019-20 to FY2023-24, the Petitioner has wrongly considered the escalation rate of 6.64% against the escalation rate of 4.47% for the period of FY 2019-20 to FY2023-24 as per Generation Tariff Regulation, 2019.
- g) UPPCL submitted that the Petitioner has wrongly considered the 13.50% as the rate of interest for at 13.50% for computing the Working Capital requirement for the period FY 2019-20 to FY2023-24. However, the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2019 provides the provisions that the rate of interest on working capital shall be considered as the Bank Rate as of 01.04.2019 which will be 12.05%.
- h) UPPCL submitted that the Petitioner has deviated from the methodology adopted by the Commission in its Tariff order dated 03-07-2018 in Petition No. 1109 of 2016 for FY 2014-15 to FY 2018-19 and claimed the Capacity/ Fixed charge per unit on monthly basis, However, the Commission in its Tariff order has computed the Capacity/ Fixed charge per unit considering the allowable fixed charges for a year in (Rs. Crore) by dividing with Ex-bus Energy sent out/ Declared Capacity (kWh).
- i) UPPCL submitted that the Commission has not allowed the Energy Charges separately for any of the generating stations in the FY 2014-15

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to FY 2018-19 period also and hence the claim of the Petitioner may be disallowed.

2.1.4. The Petitioner, UPJVNL vide letter no. 139/SE (Comm)/Tariff Petition dated 17/09/2022 submitted their responses to the objections raised by UPPCL vide letter No. 1206/CE/PPA-R dated 01/08/2022. The list of responses is given below:

- a) **True Up Petition for Previous Years:** The Petitioner in its reply submitted that the transfer scheme of UPJVNL & UJVNL is in process of finalization and the GFA balances will change and reproduce the order dated 23.08.2017 in Petition No. 1109/2016 of the Commission as follows:

"The Commission observed that the current True up Petition for the period FY 2009-10 to FY 2013-14 is immature due to non-finalization of the GFA between UPJVNL and UJVNL. Also, the process of finalization of GFA should not delay the tariff determination process for the MYT period FY2014-15 to FY 2018-19.

Hence, for the MYT period FY2014-15 to FY 2018-19, the Commission decides that the tariff will be determined considering the same GFA as considered for the earlier MYT period i.e., FY2009-10 to FY2013-14. However, in the meantime, if UPJVNL concludes the issue of GFA with UJVNL, UPJVNL can put up the same for the consideration of the Commission."

The Petitioner further submitted that the finalization of the transfer of assets and liabilities between UPJVNL and UJVNL is still pending due to some disputes and these disputes have been referred to the GoI for final settlement. Accordingly, the Petitioner craves leave of this Commission to file the true-up Petitions for the previous tariff periods immediately after the finalization of the transfer scheme.

- b) **Additional capitalization:** The Petitioner submitted that form 9B of the Petition, has justified each of the additional capitalization claims and year-wise capital expenditure in Form 9(B) and Form 1(i).

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- c) **Interest on Loan:** The Petitioner submitted that the weighted average rate of interest considered by the Petitioner is as per the approval of the Commission in the order dated 03.07.2018 in Petition 1109 of 2016. In the Petition Commission has considered the interest rate based on the provisions of the Tariff Regulations 2014 as reproduced below:

"The rate of the interest shall be the weighted average rate of interest calculated based on actual loans at the beginning of each year and shall be adjusted based on the actual loan each year accordingly. If there is no actual loan for a particular year but the normative loan is still outstanding, the last available weighted average of interest has been considered."

- d) **Operation and Maintenance Expenses:** The Petitioner submitted that the detailed reason for claiming a 6.64% escalation in O&M expenses has been provided in the amended Petition. The relevant extracts of the same are reproduced below:

"Employee benefit expenses have increased FY 2015-16 onwards because of the 7th Pay commission that was announced in the year 2016. Since such salary expenses are uncontrollable i.e. beyond the control of the Petitioner, the Petitioner is of the opinion that such costs should be allowed in the tariff calculation" Therefore, the Petitioner humbly requests the Commission to consider the request and allow the Petitioner to use 6.64% as the escalation rate in the O&M expenses for the MYT petition for FY 2019-20 to FY 2023-24 (in line with Tariff Regulations 2014)."

Also, the Petitioner made specific to allow and accept the Petitioner's claims of O&M expenses on the escalation factor of 6.64% in line with the Tariff regulation 2014 as elaborated in the Petition.

- e) **Interest on Working Capital:** The Petitioner submitted that the interest on working capital has been inadvertently considered as 13.50% and it is changed while submitting the amended Petition. The Petitioner is submitting the revised tariff forms considering the interest rate as of 01.04.2019 along with the rejoinder.
- f) **Fixed charge per unit Generation:** The Petitioner submitted that the capacity charges have been calculated on monthly basis as per clause 25(VI) of the 2019 Tariff Regulation reproduced below:

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"The capacity charges for the hydro generating stations (inclusive of incentive) shall be paid by the beneficiaries, including those outside the states to the generating company, every month in accordance with the following formula and proportion of their respective shares in the concerned generating station for a calendar month and shall be equal to:

AFC X 0.5 X NDM/NDY X (PAFM/NAPAF)"

- g) **Energy Charge per unit of Generation:** The Petitioner submitted that the calculation of energy charges has been done in terms of the provisions of the 2019 Tariff Regulations and it has been made as a part of the Petition based on the formula prescribed in the Regulation.
- h) **Depreciation:** The Petitioner submitted that the depreciation has been correctly considered in Form 12 and since depreciation for the 2019-24 tariff period is derived from Form 12 hence, there is no error in the calculation of the depreciation for the FY 2019-24 tariff period. However, Petitioner has submitted that the amount of Rs. 5.31 Cr towards depreciation for 2018-19 in form I is an inadvertent error. However, this error is not impacting the calculation of the depreciation of the 2019-24 tariff period. Further, with regards to the Objector's contention on the calculation of depreciation on 90% of the Capital cost, Petitioner would like to humbly submit that as per the provisions of the Regulation, the maximum allowable depreciation is 90% of the capital cost, and hence the depreciation is to be calculated on GFA excluding land till the time the cumulative depreciation reaches 90% of the capital cost. Hence the contention of the Objector in this regard is wrong and may be rejected.

2.1.5. The Commission vide its admittance order dated 03.11.2022 decided to hold a public hearing on 13.01.2023 and directed the Petitioner to publish the notice in one English and one Hindi daily newspaper having wide circulation in the area, outlining the details of the Petition with ARR and its components proposed, any capex proposed for the Control Period (FY 2019-20 to FY 2023-24), etc., and invite suggestions and objections within 15 days from the date of publication of the Public Notice(s) from the stakeholders and public at large. The Public notice was published by UPJVNL in Hindi and English Newspapers (Dainik Jagaran and Indian Express) dated 12.11.2022. Subsequently, the hearing was held on 13.01.2023.



2.1.6. The details of the Public Hearing were also provided on the Commission's website www.uperc.org. All the stakeholders who wished to participate in the Public Hearing were to submit their written suggestions and objections in hard copies within seven (7) days of the Public Hearing and be present during the Hearing.

2.1.7. During the Public hearing on 13.01.2023, the following comments were received:

- a) Sh. Avdhesh Kumar Verma submitted that since the true-up of the last control period has not been completed, actual interest on the loan should be considered instead of normative. Further, the escalation rate of 4.47% instead of 6.4% in the tariff should be considered in the consumer interest.
- b) Sh. Rama Shankar Awasthi submitted that the asset bifurcation between the Government of Uttar Pradesh and the Government of Uttarakhand is yet to be finalized for the UPJVNL. Sh. Awasthi requested the Commission to take a considerate view of UPJVNL's power station, the tariff being lower compared to other hydropower plants in the consumer interest.

The Commission has noted the comment and objection raised by the stakeholder viz; Mr. Avdhesh Kumar Verma & Mr. Rama Shankar Awasthi and UPPCL and accordingly addressed the same in this Order at the relevant section.

2.1.8. The Commission vide its order dated 27.01.2023 for the public hearing conducted on 13.01.2023 directed the Petitioner to place on record the updated PPA with UPPCL and Himachal Pradesh. The Petitioner vide its letter no. 14/SE(Comm)/MYT Petition dated 06.02.2023 submitted the copy of executed Power Purchase Agreement (PPA) with Himachal Electricity Board Limited (signed on dated 05.10.2015 for 20% of electricity generated from Khara HEP and effective till the existence of Khara HEP or till renewal). The Petitioner has also executed PPA with UPPCL (signed on dated 28.01.2015 for 85% of electricity generated from Rihand HEP, 2/3 part of the electricity generated from Matatila, 80% of electricity generated from Khara HEP, 100% of electricity generated from Obra, Belka, Babail, Seetal, Bhola, Nirgajani, Chitaura, and Salawa HEP effective from 01.04.2019 to 31.03.2024) and approved by the Commission through its order dated 21.06.2016.

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3. Obra Hydro Power Station ARR & MYT

3.1. UPJVNL Submission

3.1.1. In the Petition, UPJVNL has proposed the component-wise fixed charges for the electricity exported as given in the table below:

Table 8 Fixed Charge component proposed by the Petitioner (in Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Depreciation	4.50	4.50	4.50	4.52	4.66
Interest on Loan	4.55	4.00	3.45	2.92	2.57
Return on Equity	3.49	3.49	3.49	3.50	3.61
Interest on Working Capital	0.92	0.96	1.00	1.05	1.10
O & M Expenses	16.68	17.79	18.97	20.23	21.57
Total	30.14	30.74	31.41	32.22	33.52

3.2. Commission Analysis

3.2.1. For the determination of components of fixed charges for the MYT period of FY 2019 -20 to FY 2023-24, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2019 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Table 9 Components of fixed charge as per Tariff Regulation 2019

Particulars	Value	Remark
Return on Equity	15.00%	As Per Regulation
Interest on Loan	12.25%	As Per Regulation
O&M Expenses	Previous Year O&M escalated by 4.47%	As Per Regulation
Interest on Working Capital	12.05% (SBI MCLR for 1 year as on 01.04.2019 i.e., 8.55%+350 basis points)	As Per Regulation
Depreciation		As Per Regulation

Gross Fixed Asset

3.2.2. The UPERC Generation Regulations, 2019, specifies that the Capital Cost of the project as on 01st April 2019 shall be the capital cost admitted by the Commission up to FY 2018-19. Accordingly, in the instant petition, the Petitioner has considered the value of Gross Fixed Assets for the power plant as of 31st March 2019.

3.2.3. Further the Petitioner has considered additional capitalization during the control period due to other capital works as per the provisions of UPERC Generation Regulations, 2019. The details of such capitalization have been