

**ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
PLOT NO. 4, CHUNOKOLI, SHAILASHREE VIHAR,
BHUBANESWAR-751021**

**Present: Shri G. Mohapatra, Chairperson (Offg.)
Shri S. K. Ray Mohapatra, Member**

Case No.103 of 2021

Date of Hearing : 15.02.2022 (at 11.00 AM)

Date of Order : 24.03.2022

IN THE MATTER OF : An application for approval of Aggregate Revenue Requirement (ARR) and Generation Tariff of OHPC Stations for the FY 2022-23 under Sections 61, 62, 64 & 86 of the Electricity Act, 2003 read with related provisions of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and OERC (Conduct of Business) Regulations, 2004.

ORDER

The Odisha Hydro Power Corporation (OHPC) Ltd. has filed an application before the Commission for determination of Aggregate Revenue Requirement (ARR) and fixation of Generation Tariff for its different power stations for the financial year 2022-23.

A. PROCEDURAL HISTORY (Para 1 to 6)

1. The Odisha Hydro Power Corporation Ltd. (OHPC) is a 'Generating Company' under Part-I Section (28), (30) of the Electricity Act, 2003. The company was incorporated under the companies Act, 1956, in the year 1995, to carry out the business of Hydro Power Generation. After unbundling of the Odisha State Electricity Board (OSEB) in the year 1996, the assets, liabilities and personnel of Hydro Power Projects under erstwhile OSEB and Government of Orissa were transferred to OHPC to carry out the business of generation of hydro-electricity. The entire power produced from OHPC stations is fully dedicated to the state of Odisha. Thus, OHPC is supplying its entire power to GRIDCO Ltd., who in turn is supplying the same to the Distribution Utilities of the State. After the Electricity Act, 2003 came into force and with the promulgation of the Government of Odisha Transfer Scheme 2005, GRIDCO Ltd. as the deemed trading licensee is currently entrusted with statutory obligation to procure bulk power and act as a bulk supplier to four (4) distribution companies. GRIDCO also as the

“State Designated Entity” is responsible for Power Purchase Agreements (PPAs) with generating companies. Under the existing legal set up, Odisha Power Transmission Corporation Ltd. (OPTCL), the State Transmission Utility (STU) is responsible for evacuation of the powers from the generating stations of OHPC and delivering it to the Distribution Licensees.

2. As per Regulation 61(2) of the OERC (Conduct of Business) Regulations, 2004, a generating company is required to file an application by 30th November of each year to the Commission for determination of tariff for its generating stations, for sale of energy in the State of Odisha giving details of costs associated with the generation and sale of energy from the generating stations. Accordingly OHPC Ltd., as a generating company, had filed the Aggregate Revenue Requirement (ARR) application on 29.11.2021 for fixation of generation tariff i.e. Capacity and Energy Charge in respect of each of its generating stations separately before the Commission for the FY 2022-23. The said application is as per the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 which had been notified in the Odisha Gazette on 15.07.2020. OHPC has filed its reply on 18.01.2022 to the query of the Commission dated 29.12.2021 on its application.
3. After due scrutiny and admission of the aforesaid application, the Commission has directed OHPC Ltd. to publish its application in the approved format. In compliance to the same, public notice was given in leading and widely circulated newspaper and was also posted in the Commission’s website, in order to invite objections/suggestions from the general public. The applicant was also directed to file its rejoinder to the objections/suggestions filed by the objectors. In response to the aforesaid public notice the Commission has received suggestions / objections from the following four (4) persons /organizations:
 - (a) Shri Kamala Kanta Das , S/O Late Nisha Kar Das flat No.- D/102, Prestige Residency , Mahadev Nagar , Jharapada, Bhubaneswar 751006
 - (b) Shri Soumya Ranjan Patnaik, S/O late Brajabandhu Patnaik, MLA, Khandapada, Plot No – 185, VIP Colony, Nayapalli, Bhubaneswar, Odisha-751015.
 - (c) Shri Ramesh Ch. Satpathy, Secretary, Secretary, National Institute of Indian Labour & President Upobhokta Mahasangha, Plot No. 302 (B), Beherasahi ,Nayapalli , BBSR - 751012
 - (d) The Managing Director, GRIDCO Limited, Regd. Office: Janpath, Bhubaneswar, 751022.

The Commission has impleaded the Principal Secretary to Government, Department of Energy, Government of Odisha, Bhubaneswar as parties to the above proceeding to put forth their views for fixation of tariff of OHPC Ltd. by OERC.

4. The date of hearing was fixed for 15.02.2022 at 11.00 AM through virtual mode and was duly notified in the leading & widely circulated newspaper mentioning the list of objectors. The Commission also issued notice to each objector and the Department of Energy, Government of Odisha informing them about the date & time of hearing through virtual mode due to COVID-19 pandemic situation in the State and requested the applicant, the objectors and the Government's authorized representative to mail their e-mail ID and Whatsapp number at email ID: oerc.vc@gmail.com in advance for providing links for hearing. Accordingly, the applicants, objectors and the representative of DoE, GoO have furnished their e-mail IDs, took part during the proceedings and offer their views/suggestion/proposal during the hearing on virtual mode on the date and time fixed by the Commission.

All the above objectors along with Shri Ananda Kumar Mohapatra, Shri R. P. Mahapatra, Retd. Chief Engineer & Member (Gen.), OSEB, Ms. Sonali Patnaik, ALO I/C., Department of Energy, Government of Odisha and Ms. Murchhana Dhar, AGM(PP), GRIDCO Ltd., were present during tariff hearing and their written submissions filed before the Commission were taken on record for consideration of the Commission. The applicant submitted its reply/response to issues raised by the various objectors.

5. In exercise of the power under Section 94(3) of the Electricity Act, 2003 and to protect the interest of the consumers, the Commission had appointed World Institute of Sustainable Energy (WISE), Pune as Consumer Counsel for objective analysis of the applicant's Aggregate Revenue Requirement and determination of generation tariff proposal for each power stations of OHPC for the financial year 2022-23. The Consumer Counsel presented views on the matter during the hearing.
6. The Commission convened the State Advisory Committee (SAC) meeting on 11.03.2022 at 11.00 A.M to discuss about the Aggregate Revenue Requirement (ARR) applications and generation tariff proposals of the generating companies for FY 2022-23. The Members of SAC presented their valuable suggestions and views on the matter for consideration of the Commission.

B. ARR PROPOSAL OF OHPC FOR FY 2022-23 (Para 7 to 22)

7. Installed Generation Capacity

The installed generation capacity of various Hydro Stations owned by Odisha Hydro Power Corporation (OHPC) is 2093.65 (2033.60 + 60) MW including Odisha share from Machhakund Hydro Electric Plant (MHEP). The Installed Capacity of MHEP is 120 MW (i.e. 3x17MW=51MW and 3x23MW= 69MW). The share of Odisha from MHEP is 60 MW (50% of 120 MW), which has been included in the total installed capacity of OHPC.

8. Design Energy

The Design Energy (DE) of a Hydro Power Station is an important parameter for determination of tariff. The existing design energy of OHPC power stations is given in table below.

Table - 1
Design energy of Hydro Power Stations for FY 2022-23 (in MU)

Sl. No.	Name of the Power Station	Design Energy approved for FY2021-22	Saleable Design Energy approved for FY 2021-22	Design Energy proposed for FY 2022-23	Saleable Design Energy proposed for FY 2022-23
1	RHEP	525.00	519.75	525.00	519.75
2	UKHEP	832.00	823.68	832.00	823.68
3	BHEP	1183.00	1171.17	1183.00	1171.17
4	HHEP	684.00	677.16	684.00	677.16
5	CHEP	490.00	485.10	490.00	485.10
6	UIHEP	1962.00	1942.38	1962.00	1942.38
Sub Total		5676.00	5619.24	5676.00	5619.24
7	MHEP	262.50	259.875	262.50	259.875
Total		5938.50	5879.115	5938.50	5879.115

9. Reservoir Level and Anticipated Generation

- (a) The reservoir level of Power Stations reported by OHPC as on 15.11.20 vis-à-vis on 15.11.2021 is given in the following table:

Table-2
Reservoir level of Hydro power stations

Sl. No.	Reservoirs	As on 15.11.2020	As on 15.11.2021
1.	Rengali	120.41 mtr.	122.33 mtr.
2.	Kolab	852.74 mtr.	851.76 mtr.
3.	Balimela	1502.00 ft.	1483.80 ft.
4.	Hirakud	627.87 ft.	629.23 ft.
5.	Indravati	637.56 mtr.	631.31 mtr.

- (b) OHPC submitted the actual generation of different Power Stations under OHPC from 01.04.2021 up to 15.11.2021. The anticipated generation up to 31.03.2022 for the FY 2021-22 has been estimated based on the availability of water, irrigation requirement and peak load requirement of power in consultation with DoE, DoWR, GRIDCO and SLDC. The same is furnished in the following table

Table - 3
Actual /Anticipated Energy Generation of Hydro Power Stations

Sl. No.	Name of the power stations	Actual generation from 01.04.21 up to 15.11.21 (in MU)	Anticipated generation from 16.11.21 to 31.03.22 based on DoWR & DoE Schedule (in MU)	Total Anticipated generation for the FY 2021-22 based on DoWR & DoE Schedule (in MU)
1.	RHEP	675.79	402.72	1078.51
2.	UKHEP	278.31	192.00	470.31
3.	BHEP	668.105	434.40	1102.51
4.	HHEP	550.621	141.36	691.98
5.	CHEP	166.548	87.00	253.55
6.	UIHEP	1038.00	99.60	1137.00
Total		3377.39	1357.08	4734.47

OHPC submitted that the extra/ shortfall in generation from the design energy of the respective Power Stations shall be accounted towards the secondary energy fund as per Order of the Commission.

10. Project Cost

- (a) OHPC submitted that the re-valued cost of old power stations under OHPC is Rs.1196.80 Cr as on 01.04.1996 as per the notification vide S.R.O No. 254/96 dated 01.04.1996 of Department of Energy, Government of Orissa. The Commission in its Order dated 23.03.2006 at clause no. 5.4 (C) had approved the same. Further, the Commission, in the order dated 20.03.2008 has approved Rs. 1195.42 Cr as final capital cost of UIHEP for the purpose of determination of tariff. However, the Tariff of Old power stations is being determined based on the historical cost of Rs. 479.80 Cr as per the Notification No. 1068 dated 29.01.2003 of DoE, Government of Odisha.
- (b) OHPC has considered additional capitalization as per clause no. 12 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power station for different works. Additional capitalization on account of amended Companies (Ind AS) Rules to be considered under OERC

norms. Therefore, OHPC, based on the Audited Accounts of FY2020-21 (prepared as per IND AS 2015), has considered the additional capitalization of Rs.91.215 Cr for calculation of Tariff for FY 2022-23. The Commission had approved Rs.18.817Cr as decapitalization of the asset of different power stations of OHPC from FY2011-12 to FY2019-20. There is de-capitalization of Rs.5.65 Cr in case of Unit-3 CHEP Chiplima of OHPC. The total decapitalization of old power station from FY 2011-12 to FY 2020-21 is Rs. 24.468 Crs.. Rs. 19.556 Crs. has been deducted towards Historic cost for old power station of OHPC and Rs. 4.912Cr towards decapitalization of UIHEP. The project cost for computation of ARR and Tariff for FY 2022-23 is furnished in following table:

Table - 4
Project Cost of Hydro Power Stations for tariff Calculation for FY 2022-23
(Rs. Cr.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2020-21	New additions proposed in Tariff calculation FY 2022-23	Project Cost considered Tariff calculation based on Historic Cost
(1)	(2)	(3)	(4)	(5) =(2)+(4)-(3)
RHEP	91.09	0.09	63.30	154.30
UKHEP	108.31	0.49	27.83	135.65
BHEP	115.42	0.53	226.46	341.35
HHEP	72.75	11.51	283.88	345.11
CHEP	92.23	6.928	119.79	205.09
Sub Total	479.80	19.556	721.264	1181.51
UIHEP	1194.79 (approved project cost)	4.912	56.63	1246.51
Total	1674.59	24.468	777.90	2428.02

11. Tariff for Energy Billing to CSPDCL

OHPC submitted that the Chhattisgarh State Power Distribution Company Limited (CSPDCL) is taking a plea to pay the energy charges to OHPC at the tariff determined by the Commission for HHEP, Burla, which is actually applicable for the consumers of Odisha, considering the supportive measures extended by the Government of Odisha. However, OHPC has computed the tariff for billing of energy to CSPDCL as per CERC (Terms and Conditions of Tariff) Regulations, 2019 and requested to approve the tariff for energy billing to CSPDCL @ 182.598 paisa/unit for the FY 2022-23 and the details are given below in Table-5.

**Table -5
Tariff for CSPDCL for 2022-23**

Details of Expenses HHEP	Amount (Rs in Crs)
Salable Design Energy of HHEP (in MU)	677.16 MU
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2021 - Decapitalization)	402.52Cr
Return on Equity (@ 22.0494%)	26.63
Interest on Loan	4.84
Depreciation (@ 5.28%)	21.253
O & M expenses (Escalated @ 4.77%)	67.69
Interest on Working Capital (@ 10.50%)	3.24
Total ARR	123.65
Average Tariff (p/u)	182.598

12. Determination of Annual Fixed Cost for FY 2022-23

OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 specifies methodology for computation of tariff for supply of electricity from hydro generating stations. The tariff shall comprise of capacity charge and energy charge to be shared on 50:50 basis for recovery of annual fixed cost.

The Annual Fixed Cost of a hydro generating station shall consist of the following components:

- a) Return on equity (ROE)
- b) Interest on loan
- c) Depreciation
- d) Operation and Maintenance expenses
- e) Interest on working capital
- f) Income Tax

(a) Return on Equity (RoE)

OHPC submitted that the Commission in the Tariff approval of OHPC for the FY2021-22 had approved the Return on Equity with following observations:

“The OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 provides that the RoE in case of OHPC stations shall be as per provisions of the PPA. The Commission scrutinised the PPA of the OHPC plants and it is found that for old plants the Return on Equity is 15.5% and for UIHEP the RoE is 16%. Accordingly, the RoE calculation has been carried out on such percentage of RoE”

Accordingly, OHPC has calculated RoE @15.5% for old power stations and @16% for UIHEP for the FY2022-23.

Table - 6
Computation of RoE for different power stations of OHPC for FY 2022-23

Name of the Power Station	Capital Addition considered for RoE for FY 2022-23 (in Rs. Cr.)	Share of Equity (%)	Value of Equity capital (in Rs. Cr.)	ROE @15.5% for old Power stations &16% for UIHEP Proposed for 2022-23 (in Rs. Cr.)	RoE approved by OERC for 2021-22 (in Rs. Cr.)
(1)	(2)	(3)	(4)=(2)*(3)	(5)=15.5 or 16% of (4)	(6)
RHEP	63.30	30	18.990	2.944	2.855
UKHEP	27.83	30	8.350	1.294	1.263
BHEP	226.46	30	67.938	10.530	10.439
HHEP	283.88	30	85.163	13.200	12.365
CHEP	119.79	30	35.938	5.570	2.406
UIHEP	1246.51	25&30	314.459	50.313	50.283
Total	1967.77		530.839	83.852	79.610

(b) Interest on Loan:

- (i) The loan liabilities submitted by OHPC consist of State Government loan, PFC loans and Normative Loans.

Table - 7
Present Status of UIHEP Govt. Loan based on the approvals of OERC (in Rs.Cr)

Original Approved Project Cost	1195.42
Project cost after deducting the infirm power cost	1194.79
Equity @25%	298.70
Govt. Loan of UIHEP	497.86
Depreciation allowed from 2010-11 to 2021-22 @ Rs30.23 Cr	362.76
Loan Repayment made till FY 2020 -21& to be paid for FY2021-22	362.76
Balance Outstanding Loan as on 01.04.2022	135.10 Cr
Cumulative interest on UIHEP Govt. Loan from FY 2006-07 to FY 2021-22 @ 7%	405.24 Cr(Govt. proposed to consider as regulatory asset)
Cumulative interest on normative loan from FY 2001-02 to FY 2021-22@ 7%	123.90 Cr (Not paid)

- (ii) OHPC submitted that the PFC loan of Rs. 319.49 Cr. has already been repaid in full by FY 2009-10. OHPC has so far paid Rs. 332.53Cr. to Govt. by March 2021. The depreciation approved for FY 2021-22 for Rs. 30.23Cr. shall be paid

by the end of this Financial Year 2021-22. Interest on UIHEP Loan has been provided by OHPC in its books of account every year as per the direction of the Commission in the tariff order of OHPC for FY2015-16. Accordingly, the cumulative interest of UIHEP, Govt. loan up to FY 2021-22 stands at Rs. 405.24Cr.

(iii) Status of UIHEP Loan liability as on 31.03.2021

- i) PFC loan of Rs. 319.49 Cr.: repaid.
- ii) Rs. 332.23 Cr. @ Rs 30.23 Cr.: approved and repaid to Govt.
- iii) Interest on Govt Loan of UIHEP: not approved by the Commission
- iv) Principal and Interest on Normative loan: not approved by the Commission.

OHPC submitted that the Commission in the Para 131 of Compendium of Tariff Order of OHPC for FY 2013-14 has observed that *the total principal repayment (Govt loan) will take 17 years i.e. beginning with 2010-11 and will terminate by 2027-28. Thereafter, the interest payment will be taken into consideration. The loan repayment for normative loan may start after the total repayment of Govt. loan as approved above, at the same rate of Rs.30.23 Cr. each year i.e. beginning with 2028-29. The interest component will be considered after the total repayment of the principal in line with the Govt. loans.*

(iv) Status of UIHEP Loan liability as on 31.03.2040

- i) PFC loan of Rs. 319.49 Cr. : repaid
- ii) Govt. Loan of Rs. 497.86 Cr. : repaid
- iii) Normative Loan of Rs. 78.74Cr. : repaid
- iv) Cumulative depreciation passed in the Tariff Upto FY2028-29 i.e. Rs. 896.09 Cr. (Rs.319.49Cr. + Rs.497.86Cr. + Rs.78.74Cr.) : repaid
- v) Balance Depreciation to be recovered within the balance useful life (i.e. upto FY 2039 - 40) i.e. Rs.179.22 Cr. [Rs.1075.311 Crs (90% of project cost) – Rs.896.09 Cr. (Cumm. Dep. Recovered)] : not recovered
- vi) Cumulative Interest on Govt. Loan of UIHEP starting from FY 2029-30 to FY 2039-40 @ Rs 30.23 Cr will be partly paid and balance unpaid

amount not approved by Commission shall stand at Rs33.65Cr .: not recovered

- vii) Cumulative Interest on normative loan not approved by the Commission shall stand at Rs.160.92 Cr. : not recovered

Total liability of UIHEP Loan as on 31.03.2036 will be Rs.373.79 Cr (v+vi+vii) will remain unrecovered even after useful life of the project.

- (v) **Normative Loans**–Though, 9.8% State Govt. loan has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP is considered @ 9.8% as per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2021-22 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2021-22 based on PFC interest rate applicable to HHEP, Burla. The Normative loan of UIHEP due to the additional capitalization based on audited accounts of FY 2020-21 is considered @7% being the prevailing rate of interest for State Govt. loan as per the OERC tariff norms.
- (vi) OHPC submitted that the Commission has never allowed interest and/or principal of the Normative Loan of Rs. 78.74Cr. in previous Tariff approvals of OHPC. The accumulated interest calculated upto 31.03.2022 will be Rs. 123.90Cr. at the prevailing rate of interest of State Govt. loan @7%.Therefore, based on the earlier directions of the Commission, OHPC has not considered the impact of interest on Govt loan & Normative loan of UIHEP in the Tariff Calculation of OHPC for the FY2022-23. Similarly, OHPC has not claimed the accumulated interest on Govt loan & Normative loan of UIHEP as regulatory asset in view of the directives of the Commission.

Table - 8
Statement of Outstanding Loan & Interest thereon for the FY2022-23

Sl. No.	Source of Loan	Loan O/S as on 01.04.2022	Interest on Loan for the FY 2022-23
1	State Govt. Loan of UIHEP @7%*	135.10	Deferred
2	Normative Loan of Rs78.74Cr of UIHEP, Mukhiguda @ 7%	78.74	Deferred
3	Normative Loan for Add. Cap. FY2016-17 to	1.44	0.11

Sl. No.	Source of Loan	Loan O/S as on 01.04.2022	Interest on Loan for the FY 2022-23
	FY 2019-20 of Chiplima @ 9.80%		
4	Normative Loan for Add. Cap. FY2016-17 to FY 2020-21 of UKHEP@ 9.80%	4.44	0.37
5	Normative Loan for Add. Cap. FY2016-17 to FY 2020-21 of HHEP@ 8.75%	26.62	1.92
6	Normative Loan for Add. Cap. FY2016-17 to FY2020-21 of BHEP@ 9.6%	4.67	0.37
7	Normative Loan for Add. Cap. FY 2016-17 to FY 2020-21 of RHEP@ 9.80%	3.00	0.25
8	Normative Loan for Add. Cap. FY 2016-17 to FY 2020-21 of UIHEP@ 7.0%	18.54	1.04
9	Normative Loan for R&M of Unit #1, Rengali @ 9.80%	1.78	0.09
10	Normative Loan for R&M of Unit #2, Rengali @ 9.80%	3.28	0.24
11	Normative Loan for R&M of Unit #3, Chiplima @ 9.80%	43.68	4.07
Total		277.61	8.48

The Power Station wise interest on loan and guarantee commission is accordingly summarized in the following table:

Table - 9
Interest on loan of different power house of OHPC

(in Rs. Cr.)

Sl. No.	Source of loan	Interest on loan for FY 2022-23						
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	TOTAL
1.	Normative loan	0.583	0.334	0.374	1.922	4.182	1.043	8.438
2.	Govt. loan	-	-	-	-	-	-	-
Total		0.583	0.334	0.374	1.922	4.182	1.043	8.438

OHPC, therefore, submitted to approve Rs.8.438Cr. in the tariff of OHPC for the FY 2022-23 for payment of Interest towards Normative loans of the different Power Stations of OHPC as mentioned in the above table.

(c) Depreciation:

- (i) OHPC submitted that it has computed depreciation for the FY 2022-23 @ 2.57% on the Historic project cost as on 01.04.1996 (excluding de-capitalization) plus additional capitalization w.e.f. 01.04.1996 up to FY 2020-21. The Unit wise depreciation so calculated is compared with the Loan repayment and the amount whichever is higher is considered as depreciation for Tariff computation.

- (ii) OHPC stated that it has claimed Rs.5.59 Crs towards depreciation for the FY 2021-22 as there was less approval of Rs.5.59 Crs by considering the depreciation @2.57% of project cost only and ignoring depreciation on account of higher loan repayment. The Commission had approved the depreciation as in case of UKHEP, BHEP, HHEP & CHEP considering @2.57% of project cost which was higher than loan repayment for these Power stations and had approved Rs5.52Crs less for UIHEP and Rs0.07Crs less for RHEP as these power stations had Loan repayment higher than depreciation @2.57% of project cost. OHPC in the present tariff application has claimed the differential amount of depreciation amounting to Rs.5.59 Crs for the FY 2021-22 along with the normal depreciation of Rs.68.56 Crs for FY 2022-23 applying previously approved norms of the Commission, total amounting to Rs.74.15Crs as shown in the Table below

Table - 10
Depreciation Claim for the FY 2022-23

(Rs. Cr.)								
Sl. No.	Power Stations	Project Cost	Loan Repayment Amount	Depreciation @ 2.57%	Depreciation Claimed	Remark	Differential depreciation claim for FY2021-22	Total Depreciation Claimed for FY2022-23
1.	RHEP	154.30	4.22	3.97	4.22	Equal to loan Repayment	0.07	4.29
2.	UKHEP	135.65	1.24	3.49	3.49	Depreciation @ 2.57%		3.49
3.	BHEP	341.35	1.53	8.77	8.77	Depreciation @ 2.57%		8.77
4.	HHEP	345.11	9.31	8.87	9.31	Equal to loan Repayment		9.31
5.	CHEP	205.09	4.91	5.27	5.27	Depreciation @ 2.57%		5.27
6.	UIHEP	1246.51	37.49	32.04	37.49	Equal to loan Repayment	5.52	43.01
Total	2428.02	58.71	62.40	68.56		5.59	74.15	

(d) Operation & Maintenance (O&M) Expenses:

- (i) OHPC has submitted that it had calculated O & M Expenses as per the Generation Tariff Regulations, 2020 at escalated rate of 5.72 % on approved O&M expenses for FY 2021-22. The Commission while computing the O&M expenses of UIHEP for FY 2021-22, had deducted an amount of Rs. 10.075Cr. from the O&M Expense of UIHEP, Mukhiguda as income received from DoWR towards the Dam Maintenance Expense for the FY 2020-21. Assuming the same

principle, OHPC has deducted Rs10.12Cr. from the escalated O&M expenses of UIHEP for the FY2022-23.

- (ii) OHPC has calculated O&M expenses of different power stations for FY 2022-23 by escalating the O&M expenses for FY 2021-22 @ 5.72% as per principle adopted by the Commission in earlier tariff order of OHPC. The following table shows the statement of O&M Expenses for FY 2022-23 claimed by OHPC.

Table - 11
Statement of O & M Expenses for FY 2022-23

(Rs. Cr.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2021-22 Approved by OERC.	56.23	57.68	50.37	60.63	29.16	254.07	92.48	29.27	375.82
2	O & M expenses for FY 2022-23 with escalation @ 5.72% over FY 2021-22	59.45	60.98	53.25	64.10	30.83	268.60	97.77	30.94	397.32
3	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	3.82	4.88	7.78	4.20	1.10	21.79	9.16	30.94	
4	Total O & M Expenses for the FY 2022-23	63.26	65.86	61.035	68.303	31.927	290.39	106.93		397.32
Less: Amount Received from DoWR.										
5	Less : Income to be received from DOWR towards dam maintenance of UIHEP							(-) 10.12		(-) 10.12
6	Total O&M Expenses for the FY 2022-23	63.262	65.863	61.035	68.303	31.927	290.39	96.803		387.193

- (iii) OHPC, therefore, has requested for approval of Rs.387.193Crs towards O&M Expenses of the different Power Stations as mentioned in the above table for the FY 2022-23.

(e) Interest on Working Capital

(i) OHPC stated that as per OERC Generation Tariff Regulation 2020, the basis for calculation of working capital shall include the following:

- Receivables for 45 days
- Maintenance spares @ 15% of operation and maintenance expenses
- Operation and maintenance expenses for one month.

(ii) The Commission at clause no. 24(4) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 has stipulated as follows:

The Reserve Bank of India has issued guidelines for setting lending rate (on loans) of commercial banks under the name Marginal Cost of Funds based Lending Rate (MCLR). This MCLR will replace the prevailing SBI base rate from April 2016 onwards. The MCLR as on 1st April 2021 of SBI for one year was 7.0%. OHPC has considered the MCLR rate of SBI as on 01.04.2021 plus 300 basis point for computation of Interest on working capital. Based on the above principles, OHPC has calculated the Interest on working Capital of different power stations of OHPC for the FY 2022-23 in the Table given below and has requested for approval of Rs.16.06 Cr for FY 2022-23.

Table - 12
Interest on Working Capital for FY 2022-23

(Rs. Crs)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost for 45 days	9.06	9.06	10.25	11.78	5.95	46.10	24.15	70.25
2	Maintenance spares @ 15% of O&M expenses	9.49	9.88	9.16	10.25	4.79	43.56	14.52	58.08
3	O&M expenses for one month	5.27	5.49	5.09	5.69	2.66	24.20	8.07	32.27
4	Total working capital	23.82	24.43	24.50	27.71	13.40	113.86	46.74	160.60
5	Interest on working capital calculated @ 10.00%	2.382	2.443	2.450	2.771	1.340	11.386	4.674	16.060

(f) **Non-Tariff Income:**

- (i) The Non-Tariff Income is dealt in Clause No.41, 26 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The relevant clauses of the said Regulation is reproduced below:

Clause No 41: Sharing of Non-Tariff Income

The non-tariff net income in case of generating station from rent of land or buildings, sale of scrap and advertisements shall be shared between the beneficiaries and the generating company, in the ratio 50:50.”

Clause No 26 (1): *“The amount of Non-Tariff Income of the Generating Company as approved by the Commission in accordance with Regulation 41 shall be deducted while determining its Annual Fixed Charge: Provided that the Generating Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission.”*

Clause No 26(2): *“The Non-Tariff Income shall include:*

- (a) *Income from rent of land or buildings;*
- (b) *Income from sale of scrap;*
- (c) *Income from investments;*
- (d) *Income from sale of ash/rejected coal;*
- (e) *Interest income on advances to suppliers/contractors;*
- (f) *Net Income from supply of electricity by the Generating Company to the housing colonies of its operating staff and supply of electricity by the Generating Company for construction works at the generating Station, after adjusting the expenses incurred for supply of such electricity;*
- (g) *Income from rental from staff quarters;*
- (h) *Income from rental from contractors;*
- (i) *Income from hire charges from contactors and others;*
- (j) *Income from advertisements;*
- (k) *Income from sale of tender documents;*
- (l) *Any other Non-Tariff Income.”*

- (ii) In this connection, Regulation- 62 of the Central Electricity Regulatory Commission (Terms and conditions of Tariff) Regulations-2019 provides that ***the non-tariff net income in case of generating station and transmission system from rent of land or buildings, sale of scrap and advertisements shall be shared between the beneficiaries or the long-term customers and the generating company or the transmission licensee, as the case may be, in the ratio 50:50.***

Accordingly OHPC has submitted the power house wise details of Non-Tariff income as stipulated in the Regulation 26(2) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulations 2020.

- (iii) OHPC in line with the above provisions of OERC & CERC Tariff Regulations, the deductible Non-Tariff income of different power stations of OHPC to be considered for ARR of OHPC for the FY2022-23 (based on the audited account of OHPC for the FY2020-21) are shown in the table below:

Table- 13
Deductible Non-Tariff Income of different Power Stations of OHPC
for FY 2022-23

(Rs. in Crs.)

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
1	Rent of land & buildings	0.054	0.064	0.096	0.220	0.025	0.082	0.541
2	Sale of scrap	0.194	0.006	0.351	3.711	-	-	4.262
3	Advertisement	-	-	-	-	-	-	-
4	Total deductible Non- Tariff Income	0.248	0.070	0.447	3.930	0.025	0.082	4.803
5	50% of total deductible Non-Tariff Income to be considered in ARR	0.124	0.035	0.224	1.969	0.006	0.041	2.402

The deductible non-tariff income of different power stations for the FY2022-23 as proposed by OHPC is given in the Table above and OHPC has requested for approval of Rs.2.40 Crs towards non-tariff income for FY 2022-23.

13. Total Annual Fixed Cost

Based on the above parameters, the ARR and tariff calculated for the FY 2022-23 and as proposed by OHPC is summarized below.

Table - 14
ARR and Tariff for the FY 2022-23

(Rs Crs)

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
Existing Saleable Design Energy (MU)	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
Return on Equity	2.944	1.294	10.530	13.200	5.570	33.539	50.313	83.85
Interest on Loan	0.583	0.374	0.374	1.922	4.182	7.435	1.043	8.48
Depreciation	4.291	3.486	8.773	9.312	5.271	31.133	43.015	74.15

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
O&M Expenses	63.262	65.863	61.035	68.303	31.927	290.390	96.803	387.19
Interest on working capital	2.382	2.443	2.450	2.771	1.340	11.386	4.674	16.06
Total Cost	73.461	73.461	83.162	95.508	48.290	373.882	195.848	569.73
Less Non-Tariff Income	0.124	0.035	0.224	1.969	0.006	2.361	0.041	2.402
Total ARR	73.337	73.426	82.938	93.539	48.284	371.524	195.807	567.328
Average Tariff (p/u)	141.10	89.14	70.82	138.13	99.53	101.04	100.81	100.96

14. Application Fee and the Publication Expenses:

- (a) OHPC stated that as per the OERC tariff regulation 2020, the application filing fee and the expenses incurred on publication of notices may in the discretion of the Commission, be allowed to be recovered by the generating company directly from the beneficiaries. As per the Commission notification no. 1992 dated 31.08.2009, in the clause no. 17, Commission has fixed a fee of Rs. 5000/- per MW as application fee for determination of tariff of conventional fuel based plant/ hydel plants, subject to maximum limit of Rs. 25,00,000/- (Rupees Twenty-five lakhs).
- (b) OHPC, therefore, submitted that in view of the above order, OHPC has to deposit Rs.25 lakhs towards application fee for the FY2022-23. OHPC may, therefore, be allowed to recover the same amount from GRIDCO. OHPC proposed Rs.2.0 lakhs as reimbursement towards publication expenses for FY 2022-23. In view of above, OHPC request for approval of Rs.26.70 lakhs, to be reimbursed from GRIDCO, towards application fee and publication expenses including differential of publication expenses for past two years.

Table - 15
Application Fees and Publication Expenses
(Rs in Lakhs)

Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2022-23	25.00
2	Publication expenses for FY2022-23	2.00
3	Differential Publication Expense of FY2021-22	0.434
	Total	27.434

15. Electricity duty on Auxiliary Consumption:

- (a) OHPC stated that the Electricity Duty on auxiliary consumption etc. payable by OHPC to the State Government and other statutory bodies shall be passed on to

GRIDCO in the shape of supplementary bill raised by OHPC. The Rate of Electricity Duty / Unit have been revised from 30 paise per Unit to 55 paise per Unit with effect from 12th May, 2017 as per the Gazette Notification No. 912 dated 12.05.2017.

- (b) Based on Odisha Electricity (Duty) Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017, OHPC is paying the Electricity Duty in “J” format, where Electricity Duty is payable on total Energy Generated minus total Energy Sold. This implies that the Electricity Duty is payable on the Auxiliary Equipment consumption and Transformer loss within the Power Station.
- (c) In view of the above OHPC has claimed the following amounts as Reimbursement of Electricity Duty @ 55 paise / unit from GRIDCO for its different power stations for the FY 2022-23.

Table - 16
ED claim for OHPCs power stations for FY 2022-23

(Rs. in Crs)					
Power Stations	Design Energy (in MU)	Proposed Percentage of Auxiliary Energy Consumption (in %)	Auxiliary Energy Consumption to be approved (in MU)	ED Rate Applicable (in Rs/Unit)	ED proposed for Reimbursement by OHPC @55p/u & AUX @1% (in Crs)
RHEP	525	1	5.25	0.55	0.289
UKHEP	832	1	8.32	0.55	0.458
BHEP	1183	1	11.83	0.55	0.651
HHEP	684	1	6.84	0.55	0.376
CHEP	490	1	4.90	0.55	0.270
UIHEP	1962	1	19.62	0.55	1.079
Total	5676	1	56.76	0.55	3.122

16. License fee for use of water for generation of Electricity:

- (a) OHPC stated that as per the amendment made in Rule-23-A (2) (f) of the Odisha irrigation Rule the license fee for drawl or allocation of water was enhanced @10% per annum w.e.f 1st day of April. Accordingly OHPC was paying water cess @1.1paise/ unit for the FY 2017-18, @1.2 paise/ unit for the FY2018-19 & @1.3 paise/ unit for the FY2019-20 & @1.4 paise/unit for FY2020-21 & @1.5paise/ unit for the FY2021-22and got reimbursed from GRIDCO. Accordingly, OHPC shall pay Licence Fee on water used for generation of

electricity for FY 2022-23 @1.6paise/ unit. The statement of License fee for consumption of water is shown in the following table:

Table - 17
License fee for Consumption of water for generation of electricity FY 2022-23
(Rs. in Crs)

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @0.016Rs/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.840	OHPC will claim reimbursement @Rs 0.016/Kwh on actual generation of each Power Station.
UKHEP	832	1.331	
BHEP	1183	1.893	
HHEP	684	1.094	
CHEP	490	0.784	
UIHEP	1962	3.139	
Total	5676	9.082	

(b) OHPC therefore submitted for the approval of provisional amount of Rs 9.082Cr towards License fee mentioned in the table above as Reimbursement from GRIDCO subject to approval of reimbursement to the extent of actual water cess paid to the Govt. based on actual generation pattern for the FY2022-23.

17. SLDC Charges

OHPC submitted that as per OERC (fees & charges of state load dispatch centre and other related matters) regulations, 2010, SLDC has to levy and collect annual charges from the users towards system operation charges and market operation charges.

The Commission has approved Rs. 1.25 Cr. for the FY 2021-22. Since OHPC has not received the ARR, fees & charges of SLDC for the FY 2022-23, the previous year approved charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable by OHPC for the FY 2022-23. Accordingly, OHPC proposes Rs. 1.3215 Cr. as SLDC charges for FY 2022-23 payable by OHPC on an average available installed capacity of 1679 MW.

18. Reimbursement of Contribution Made to ERPC

OHPC stated that it has paid Rs. 15 lakhs towards contribution to ERPC establishment fund and Rs. 1 lakh towards contribution to ERPC fund. Accordingly OHPC has claimed Rs. 16.0 Lakhs as a pass through in the tariff for FY 2022-23 to be reimbursed from GRIDCO. Any excess claim (above Rs16.0 Lakhs) made by ERPC for the FY 2022-23 will be claimed by OHPC as additional reimbursement in the subsequent Tariff year. OHPC submitted to include this amount in ARR of GRIDCO.

19. **Reimbursement of working capital of MHEP**

OHPC in its additional submission claimed advance working capital for operation of Machkund Hyrdo Electric Joint Project to APGENCO , which was apprised during the hearing by OHPC to the Commission & objectors .OHPC stated that New Machkund Agreement 2020 (as per clause No.16) has the provision for deposit of advance working capital for the ensuing year towards operation of the project. The clause no 16 of New Machkund Agreement 2020 is reproduced below;

“An advance payment/working capital equal to 15% of O&M budget shall be provided to the first party on interest free basis by 2nd party for operation of project. The O&M expense of previous year shall form the basis of mainting 15% O&M expense. To maintain 15% of advance of O&M budget for the ensuing year ,the actual of previous years shall be the basis of verification (plus or minus) shall be paid/adjusted along within the final bill as per the audited accounts “

OHPC stated as per the clause -16 of the new agreement, APGENCO, being the 1st party vide letter no.409 dtd.18.11.2021, has claimed an interest free working capital of Rs 7.74 crs from OHPC/GRIDCO based on the previous year audited O&M expense of MHEP for the FY 2020-21.Accordingly OHPC vide letter no704 dtd.31.01.2022 have requested GRIDCO to release advance working capital of Rs 7.74 crs to OHPC in order to make necessary payment to APGENCO.

(f) Income Tax

OHPC stated that it is entitled to get reimbursement of Rs 36.19Crs towards income tax for FY 2020-21 on core business income. OHPC submitted for total reimbursement claim for an amount of Rs 36.19Crs from GRIDCO in the Tariff of OHPC for FY 2022-23 towards reimbursement of Income Tax as per the Audited Accounts of FY2020-21.

**Table-18
Income Tax paid by OHPC for the FY 2020-21**

Particulars	Amount of TAX Paid (Rs in Crs)
Total Income Tax paid by OHPC during FY2020-21	57.7148
Less: Income tax on noncore business (Income tax @25.168% on FD interest of Rs80.7005Crs)	20.3107
Less: Income tax on deductible non-tariff income (Income Tax @25.168% on Rs4.8032Crs)	1.2089
Income Tax on core income to be reimbursed from GRIDCO	36.1952

20. **Tariff for Machkund H.E. (Jt.) Scheme**

- (a) Machhakund Hydro Electric Project is a joint scheme of Government of Andhra Pradesh and Government of Orissa with 70% and 30% shares respectively, with option of Government of Odisha to draw an additional 20% power at a cost of Rs. 0.08 per unit as per the interstate supplementary agreement in the year 1978 between Government of Andhra Pradesh and Government of Odisha.
- (b) Being an inter-state Joint Project between Odisha & Andhra Pradesh, execution of necessary inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO on 23rd October 2020. As per the provisions made in the Agreement for acquiring additional 20% share of the Joint Scheme, Govt. of Odisha / OHPC shall make payment of Rs 27.42 Crs to GoAP/APGENCO towards present depreciated cost of the Project and share the expenditure on account of RM & U works for all the generating units along with auxiliaries and switchyard system in the ratio of 50:50.
- (c) Accordingly, the Cost of Power Billing by APGENCO to OHPC / GRIDCO @ 8 paise/unit for the energy drawal by Odisha beyond 30% upto 50% shall be discontinued from the date of payment of Rs 27.42 Crs as mentioned above. Similarly, the share of annual audited O&M expenditure of MHEP between the two States in the proportion of their maximum demand in MW availed during the year shall also be discontinued.
- (d) After payment of Rs 27.42 crs as per the Clause No.3 of the Agreement, Govt of Odisha / OHPC shall have 50% legitimate share of MHEP Joint Scheme and shall draw 50% of power / energy generated $[(\text{Gross generation minus AUX})/2]$ on real time basis from MHEP in line with the provisions made under Clause No.13 and accordingly would make payment of 50% share of the cost of Operation and Maintenance charges as may be required / actually incurred for the project every year.
- (e) The proposed tariff of Rs.1.109/Unit of Orissa drawl of Machhakund power for FY 2022-23 has been computed on cost reimbursement basis. The tariff proposed by OHPC is based on assumption that GRIDCO will draw power up to 50% of design energy of Machhakund which is equivalent to 259.875 MU.

Table - 19
Projected Tariff of Machhakund H. E. (J) Scheme For FY 2022-23

PROJECTED TARIFF OF MACHKUND (JT.) HEP FOR 2022-23	
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Design Energy of MHEP for Generation (MU)	525
Normative Auxiliary Energy Consumption (AUX) (%)	1%
Normative Auxiliary Energy Consumption (AUX) (MU)	5.25
Saleable Design Energy for sharing between Andhra Pradesh & Odisha (MU)	519.75
(50%) Saleable Design Energy Share of Odisha (MU)	259.875
Drawal of Toal Share of Odisha Energy by GRIDCO (MU)	259.875
O&M Escalation factor @ 5.72 % for two years over the O&M Bill of MHEP for FY 2019-20.	1.1177
	(Rs. in Cr.)
1. Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2020-21	51.5732
2. 50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2020-21)	25.7866
3. O&M Expenditure for FY 2022-23 applying the escalation factor	28.8210
4.Total Expected Expenditure during the FY 2022-23	28.8210
5.Tariff (Rs/kWh)	1.10903
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs1.109/kWh during the FY 2022-23 to make payment of O&M cost to APGENCO thereof and as per the new Agreement subject to final reconciliation at the year end.	

21. Two-Part Tariff

- (a) OHPC stated that as per clause 28 of the OERC (Terms and conditions for determination of Generation Tariff) Regulation 2020, the annual fixed cost of a power station shall be recovered on monthly basis through capacity charge (inclusive of incentives) and energy charge to be shared on 50:50 basis.

- 1) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be

Capacity charge (CC) = AFC x 0.5 x NDM/NDY x (PAFM/NAPAF) in Rupees.

Where, AFC = Annual Fixed Cost specified for the year in rupees

NAPAF= Normative Annual Plant Availability Factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant Availability Factor achieved during the month in percentage.

The PAFM shall be computed in accordance with the following formula:

$$\text{PAFM} = 10000 \times \frac{\sum_{i=1}^N \text{DC}_i}{\{N \times \text{IC} \times (100 - \text{Aux})\}} \%$$

Where,

Aux = Normative auxiliary energy consumption in percentage

N = No of days in the month

IC = Installed capacity in MW of the complete generating station

DC_i = Declared Capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least (3) hours, as certified by the nodal load dispatch centre after the day is over.

- 2) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, during the calendar month on ex-power plant basis at the computed energy charge rate.

Total energy charge payable to the generating company for a month shall be

{(Energy charge rate in Rs./ Kwh) x (Schedule energy (ex-bus)) for the month in Kwh}

The actual energy sent out (Ex-bus) is considered as the scheduled energy (Ex-bus) for OHPC Power Stations

- 3) Energy charge rate (ECR) in Rupees per Kwh on ex-bus plant basis for a hydro generating station shall be determined up to three decimal places based on the following formula, subject to provisions in clause3(1)(s) of OERC (Terms and Conditions for determination of Generation Tariff regulations) 2020.

$$\text{ECR} = \text{AFC} \times 0.5 \times 10 / \{\text{DE} \times (100 - \text{Aux}) \times 100\}$$

Where,

DE= Annual design energy specified for the hydro generating station in MWh, subject to provisions in Clause-3(1)(s) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020.

- (b) Accordingly, annual capacity charges, annual energy charges and energy charge rate of different power stations of OHPC as proposed for FY 2022-23 is shown below.

Table-20
Capacity charge and energy charge of OHPC power stations FY 2022-23

Name of the power stations	Annual Fixed Cost (ARR) (Rs. in Crs)	Annual Capacity Charge (ACC) 50% (Rs. in Crs)	Annual Energy Charge (AEC) 50% (Rs. in Crs)	Salable design energy (MU)	Energy Charge Rate (ECR) (in p/u)
RHEP	73.337	36.669	36.669	519.75	70.550
UKHEP	73.426	36.713	36.713	823.68	44.572
BHEP	82.938	41.469	41.469	1171.17	35.408
HHEP	93.539	46.770	46.770	677.16	69.067
CHEP	48.284	24.142	24.142	485.10	49.767
UIHEP	195.807	97.904	97.904	1942.38	50.404

22. **Normative Plant Availability Factor (NAPAF)**

- (a) OHPC stated that as per OERC Tariff Regulations, 2020 the 50% of the annual fixed cost of a generating station is to be recovered through capacity charge. The Commission in Case No. 52 of 2019 had fixed the NAPAF of different power stations for the control period 2019-20 to 2023-24. In view of the above Order, the NAPAF of different power stations of OHPC for the FY 2022-23 for computation of Capacity Charges shall be considered as mentioned in the Table below:

Table-21
Normative Plant Availability Factor (NAPAF) for FY 2022-23

Power Stations	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP
NAPAF (%)	80	87	83 - for first 3 years 87- for subsequent 2 years	75	75	88

- (b) OHPC submitted before the Commission to kindly approve the following in the ARR & Tariff Order of OHPC Power Stations for the FY 2022-23:
- (i) The ARR amounting to Rs567.328 crs. of OHPC Power Stations at an average tariff @ 100.96Paise/Unit.
 - (ii) The ACC, AEC & ECR of different Power Stations of OHPC.
 - (iii) The miscellaneous reimbursement of Rs 62.20404 crs by OHPC from GRIDCO.
 - (iv) The tariff for energy billing to CSPDCL @ 1.82598Rs / kWh considering Up-valued cost of HHEP and the norms of CERC (Terms & Conditions of Tariff) Regulations, 2019.

- (v) The tariff of MHEP (Joint Scheme) @ 1.10903Rs/unit with provision of Rs 28.8201 crs in the ARR of OHPC & GRIDCO to enable OHPC to make payment of O&M cost to APGENCO.
- (vi) The average available Installed Capacity as 1679 MW for payment of SLDC charges.
- (vii) To approve useful life of Unit-3 CHEP after R&M works for 35years as per the recommendation of OEM.

The Views of objectors and response/reply of OHPC on various issues are as follows (Para 23 to 46)

23. **Design Energy**

One of the objectors pointed out that the OHPC is generating more power than the Design Energy of 5676 MU.

Rejoinder

OHPC submitted that the Design Energy has been defined in OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2020 as follows:

“Design Energy” means the quantum of energy which can be generated in a 90% dependable year with 95% installed capacity of the hydro generating station.”

OHPC submitted that the actual generation from a hydroelectric project depends on the rainfall pattern, availability of water in the reservoir & machines for generation and demand of the state. Further the water available in a carry-over reservoir is very often carried over to the next year due to uncertainty and irregular pattern of rainfall which affects the actual generation in a particular year. Therefore, there is always a mismatch between actual generation & design energy. Accordingly, OHPC power stations have never generated exactly equal to its Design Energy (5676 MU) during any financial year. In most of the financial years, the total generation of OHPC is less than the Design Energy of 5676 MU due to the reasons mentioned above.

24. **Additional Capitalization**

One of the objector GRIDCO observed that the capital expenditure incurred by OHPC is not in line with the conditions set out under regulation 12 (2) of the OERC Generation Tariff Regulation, 2020. OHPC may submit the details of additional capital expenditure justifying under which criteria the items of capital expenditure falling under Regulation 12(2)(a) to (g). The quantum of new additions as furnished by OHPC

in its ARR Application for FY 2022-23 and new additions claimed during FY20-21 is higher (new additions audited) than the audited value as the new additions during FY 20-21 is Rs.84.269 Cr instead of Rs.91.214 considered by OHPC.

Rejoinder

OHPC submitted that OHPC has made additional capitalization as per Clause No 12(3) of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations. The relevant clause is stipulated as follows:

“Clause 12(3): 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.”*

The variation of Project Cost claimed by OHPC in Annexure-13 of original ARR petition and Project Cost proposed by GRIDCO is due to the following reasons.

- i. The Additional Capitalization of Rs 0.52 Cr towards expenditures incurred in corporate office is apportioned and added to audited Capital cost of individual Power House of OHPC
- ii. In case of CHEP, Chiplima OHPC has added Rs 6.42Crs as notional IDC considering the loan component of the project cost.

25. **Installed Capacity**

(a) One of the objectors submitted that OHPC has proposed in their ARR to reduce installed capacity which is not acceptable. OHPC failed to develop any hydro/mini hydro project for the state. The Government should direct OHPC to appoint fulltime Chairman for the OHPC.

(b)One of the Objector Shri Somya Ranjan Patnaik Hon’ble MLA submitted that in spite of having all favourable conditions and huge water resources, there is no new

additions to the installed capacity of 2066MW of OHPC, during last 25 years. There is no improvement of power generation of OHPC power stations however the ARR of individual power stations have increased in corresponding period because of capitalization which is resulting the increased tariff generation of the OHPC year by year.

Rejoinder

The OHPC submitted that the claim of objector about reduction of installed capacity is not true. OHPC in the Tariff Application for FY 2022-23 has not applied for any reduction of Installed Capacity for computation of Tariff.

Further, regarding the development of hydro projects, OHPC submitted that, after formation of OHPC due to enactment of Electricity Reform Act 1995, OHPC has added 786.3 MW as follows to its Installed Capacity.

- a) Commissioning of 04 units at UIHEP with Installed Capacity of 600MW (4 x 150MW) on FY2001-02.
- b) Commissioning of Unit-7 & 8 of BHEP, Balimela Expansion project of Installed Capacity of 150MW (2 x 75MW)
- c) Upgrading of Unit-1 & 2 of HHEP, Burla from 37.5MW each to 49.5MW thereby adding 24MW.
- d) Upgrading of Unit-5 & 6 of HHEP, Burla from 37.5MW each to 43.65MW thereby adding 12.3MW.

Thus, OHPC has added 786.3MW (600MW + 150MW + 24MW + 12.3MW) to the Installed Capacity after its formation during 1995.

Moreover, OHPC intends to develop 03 Nos. of Pumped Storage Projects and 02Nos of new Hydro Electric Projects. The WAPCOS has been engaged for preparation of DPR of these projects. OHPC has provided status of such projects.

OHPC in its additional submission had submitted its future plan for Augmenting of capacity which is provided in the below table:

Sl. No	Project Details	Proposed Capacity (in MW)	Present Status
1.	UIHEP, Pump Storage Project at	600	<ul style="list-style-type: none"> • M/s WAPCOS submitted the draft DPR of Upper Indravati Pump Storage Project. .

Sl. No	Project Details	Proposed Capacity (in MW)	Present Status
	Mukhiguda, Kalahandi		<ul style="list-style-type: none"> OHPC has engaged IFC as Transaction Advisor for implementation of Project in PPP mode. The Draft DPR is under scrutiny at various Departments of CEA and CWC.
2.	UKHEP, Pump Storage Project at Baraniput, Koraput,.	320	<ul style="list-style-type: none"> WAPCOS submitted the conceptual layout report which has been approved by DoWR. M/s WAPCOS has submitted Topographical Survey Report and is under scrutiny by OHPC.
3.	BHEP, Pump Storage Project at Balimela, Koraput.	500	<ul style="list-style-type: none"> M/s WAPCOS engaged for preparation of DPR. WAPCOS submitted the topographical & geological survey reports. The conceptual layout has been approved by DoWR. The revised PFR submitted to various Dept. of CEA & CWC for obtaining pre DPR clearances.
4.	Kharaga Hydro Electric Project on river Kharaga in Kandhamal district	63	<ul style="list-style-type: none"> M/s WAPCOS has submitted Topographical Survey Report and draft DPR. Department of water resources, Govt. of Odisha vide letter on 18.03.2021 instructed OHPC to investigate further to make Kharag HEP as multipurpose project.
5.	Salki Hydro Electric Project on river Salki in Boudh district.	44	<ul style="list-style-type: none"> WAPCOS submitted the conceptual layout report with preliminary indication of 44MW Capacity. Department of water resources, Govt. of Odisha vide letter on 18.03.2021 instructed OHPC to investigate further to make Kharag HEP as multipurpose project.
	Total	1527MW	

26. Manpower

One of the objectors Shri R. C. Satapthy stated that the total staff strength of OHPC is near about 1700 nos. but only 550 workers are managing all power stations. Instead of filling up the necessary posts for power house, OHPC is outsourcing workers through contractors with less salary since last 10 years. Nearly 1400 outsource workers are working under OHPC with no service regularization.

Rejoinder

OHPC submitted that as per the prevalent practice, OHPC Management is engaging contractual personnel as and when required through different outsourcing agencies in non-core activities only. For Core activities, OHPC is recruiting regular employees, hence the contention is not correct.

27. **Reservoir Operation**

- (a) One of the objector Shri R P Mohapatra stated that OHPC needs to revise its design energy due to restriction in generation below 595 ft at HHEP Burla and stated that state cannot afford to lose generation of 32.40 MU of cheap hydro due to the draw down level.
- (b) Another objector Shri Ramesh Chandra Satpathy submitted that in spite of the direction from the High Court of Odisha, the water resource department failed to collect 400 Crs. from the industries for using the water consequently adversely affecting the interest of consumers.

Rejoinder

OHPC submitted that OHPC generates its power from storage type multipurpose reservoir where electricity generation is given lower priority after flood control, irrigation & consumptive use. All these reservoirs operation are under the control of DoWR. The actual generation schedule of different Power Stations under OHPC is prepared on the basis of the availability of water, irrigation requirement and peak load requirement of power in co-ordination with DoE, DoWR, GRIDCO and SLDC.

OHPC stated that the matter of loss of generation (approx. 32MU) incurred by HHEP by the restriction imposed by DoWR to generate below 595ft RL is submitted to DoE for necessary action. Further OHPC stated that the Commission may implead DoWR and advise to revise the Rule curve for electricity generation due to the constraint in operating reservoir below 595ft RL.

OHPC submitted that the matter of loss of generation due to drawl of water by the industries from different reservoirs is being examined by the Government of Odisha. OHPC further submitted that, a sub-committee under the chairmanship of Engineer-in-Chief Water Resource and Engineer-in-Chief (Electricity) and Director (Operations), OHPC as members has been formulated by the Chief Secretary, Government of Odisha to examine the matter on 15.12.2020. OHPC submitted the details of compliances.

OHPC stated that the matter regarding non-payment of energy compensation by the industries has already been intimated by OHPC to DOWR and the matter is under sub-judice. However, OHPC vide its letter no.8598 dtd. 22.09.2016 had intimated in detail to the State Govt. & the Commission regarding the above matter along with

its views for consideration in response to letter no 1161 dated 25.08.2016 of Secretary, OERC to DoE, GoO.

OHPC stated that a meeting was held on dt.04.03.2021 under the chair of Principal Secretary, DoWR in the conference hall, DoWR, Rajiv Bhawan wherein it was decided to constitute a sub-committee under the chair of the Engineer-in-Chief, Water Resources with Engineer-in-Chief, Electricity and Director (Operation), OHPC, as members to study the issue and submit the findings within a period of one month to the Principal Secretary, DoWR, the chairman of the committee. The Sub-committee deliberated on the issue and have submitted the report to the Principal Secretary, DoWR. Now the matter is under consideration by Government.

28. **Investment made by OHPC**

One of the objectors Shri Ramesh Chandra Satpathy suggested OHPC to give details as to how much funds they have spent in joint venture companies such as OTPCL, Green Energy Corporation and any other Company along with OPGC. He wanted to know list of joint venture company where OHPC being a promoter and their total expenditure till December 2021. The Objector Shri Somya Ranjan Patnaik Hon'ble MLA suggested that OHPC may furnish the data on Govt grant capital investment done in various projects of OHPC in order to calculate the various components of AFC.

Rejoinder

OHPC submitted the details regarding the amount spent by OHPC as on date in JVs / Subsidiaries / Associate Companies are as follows:

Table 22
(Rupees in Lacs)

Name of JVs / Associates	As Equity
OTPCL	15720.47
GEDCOL	5032.00
OCPL	18914.00
BWCCL	1000.00
OPGC	99778.84

OHPC submitted the information regarding list of Joint Venture / Subsidiary / Associates where in OHPC being a promoter is furnished in the Table below:

Table -23

Sl. No.	Name of the Joint Venture/ Subsidiary /Associates
1.	Odisha Thermal Power Corporation Ltd (OTPC) J V Company between OHPC & OMC 50% each.
2.	Baitarini West Coal Company Ltd (BWCCL) J V Company between OHPC, Gujrat Power Corporation Limited (GPCL) & Kerala State Electricity Board (KSEB) 1/3 each.
3.	Odisha Coal & Power Ltd. (OCPL) Company between OPGC & OHPC with 51% & 49%.
4.	Green Energy Development Corporation of Odisha Ltd. (GEDCOL) - 100% subsidiary of OHPC
5.	Odisha Power Generation Company Limited (OPGC) Company between Govt. of Odisha & OHPC with 51% & 49%

OHPC submitted that the company had received only PSDF grant as subsidy through capital expenditures. The amount of Rs 7.803 Cr received as PSDF grant upto 2020-21 has been reduced from capital expenditures as submitted in the original petition.

29. **Depreciation**

One of the Objector GRIDCO submitted that OHPC has calculated the depreciation at pre-1992 notified value of 2.57% (62.40 Cr) of total project cost and has compared it with loan repayment obligation (58.71 Cr). GRIDCO suggested that the commission may consider the depreciation amount for different plants as per the actual loan repayment (58.71 Cr) instead of considering depreciation calculated @2.57%. The additional differential depreciation for FY 2021-22 as depreciation claim has already been well addressed by the Commission in ARR approval for FY 21-22 therefore, may be rejected.

Rejoinder

OHPC stated that as per the provisions under clause no. 23(4) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 has specified for OHPC as follows:

“Provided that that for existing plants of OHPC as per the directions of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of the assets;

Provided, further that for existing plants of OPGC (UNIT-I & II), the applicable depreciation rate shall be as determined by Commission from time to time.”

From FY 2003-04 onwards, as per the directions of the High Court of Orissa, depreciation was calculated at pre-1992 norms notified by Government of India on the

book value of the assets. For the purpose of determination of Annual Fixed Cost, the Commission usually computes depreciation @ 2.57% of the project cost.

Table - 24

Units	Project cost claimed by OHPC	90% of project cost	Depreciation to be approved by the Commission and claimed by OHPC for FY-2022-23
RHEP	154.3	138.87	105.15
UKHEP	135.65	122.085	114.28
BHEP	341.35	307.215	254.88
HHEP	345.11	310.599	211.82
CHEP	205.09	184.581	102.73
UIHEP	1246.51	1121.859	740.87

From the above table, it may be seen that 90% of the project cost is not recovered through approval of OERC till date. Due to additional capitalization on account of R&M works & Capital Maintenance work the Project Cost of each power station has increased. Similarly due to additional capitalization in each year the Project Cost of individual power stations increased. OHPC has not recovered the 90% of the project cost till date. It may also be noted that the OHPC does not recover the approved depreciation since the amount billed for Energy Charge & Capacity Charge is not equal to ARR approved. In the recent years the amount billed to GRIDCO as energy bill is less than the ARR approved. Thus, depreciation actually recovered is quite less than depreciation approved. The accumulated depreciation recovered can be assessed after finalization of Truing up petition of individual power stations.

Thus, as approved by the Commission OHPC has computed depreciation 2.57% of Project Cost (Historic Cost+ Additional Capitalization – Decapitalization) and compared with loan repayment. The higher value is considered as Depreciation. In any case accumulated depreciation shall not exceed 90% of the Project Cost.

30. **Return on Equity**

The objector GRIDCO submitted to consider total RoE of 83.529 Cr against RoE claimed by OHPC of 83.852Crore (Considering RoE@ 15.5% for old power stations and 16% for UIHEP).

Rejoinder

OHPC submitted that the difference of Rs. 0.323 Cr between the RoE as claimed by OHPC & GRIDCO is arising due the reason mentioned below:

OHPC has made additional capitalization as per Clause No 12(3) of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations. The relevant clause is stipulated as follows:

“Clause 12(3): 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 ground:

- (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.*

The variation of Project Cost claimed by OHPC as submitted in original ARR petition and Project Cost proposed by GRIDCO is due to the following reasons.

- i) The Additional Capitalization of Rs 0.52 Cr towards expenditures incurred in corporate office is apportioned and added to audited Capital cost of individual Power House of OHPC.
- ii) In case of CHEP, Chiplima OHPC has added Rs6.42Crs as notional IDC considering the loan component of the project cost.

31. Reimbursement of Income Tax

The Objector Shri Somya Ranjan Patnaik, Hon’ble MLA submitted that the petitioner as per the provision under OERC generation tariff Regulations 2020 considers income tax as a component of AFC and allow pass through in the tariff, whereas the CERC Regulations do not specify recovery of income tax from the beneficiaries. CERC recommends grossing of RoE with the applicable tax rate of respective financial year. The objector suggested to follow the CERC methodology for calculation of RoE by considering core income of FY 2020-21 and tax paid for the same.

Rejoinder

OHPC has claimed for reimbursement of income tax by following the guidelines adopted for calculation of ARR in the tariff order passed by the Commission in previous years. Further as per Clause No.-21 of OERC regulation, Tax on Income of the generating company shall be recovered from the beneficiaries. This will exclude Income Tax on other income streams (Income from Non-generation & Non-transmission business). As Compliance to the above regulation, OHPC has correctly claimed Income Tax of Rs.36.1952 Cr excluding Income Tax on Interest income & non-tariff income. The total Tax liability for the FY 2020-21 was Rs. 57.7148 Cr. Out of which tax liability on Interest income and non-tariff income was Rs.21.5196 Cr (Rs.20.3107 Cr @25.168% effective tax on Interest income on Bank Deposit of Rs.80.7005 Cr plus Rs 1.2089 Cr @ 25.168% effective tax on Non-tariff income). So tax liability on core business was Rs.36.1952 Cr, i.e. Rs.57.7148 Cr minus Rs.21.5196 Cr.

32. **True up of Capital Expenditure**

The Objector Shri Somya Ranjan Patnaik, Hon'ble MLA stated that the Commission has not carried out Truing up of capital expenditure and tariff exercise for OHPC for past several years. Truing up of past expenses is necessary and mandated in OERC Generation Tariff Regulations 2014. The repeated failure of the petitioner to submit the true up petition and observe the prescribed procedure for tariff determination could result in dismissal of the instant petition by the Commission. Determination of generation tariff for ensuing year without ascertaining the gain/loss of actual tariff recovery done by the petitioner in previous tariff period may not be prudent and shall be against the MYT principles.

Rejoinder

OHPC stated that OHPC had filed petition on truing up between the ARR approved by OERC and actual expenditures/ earning done by OHPC from FY 1996-97 to 2015-16 on 16-09-2020. The matter is registered as Case No. 55/2020.

OERC has issued the Order on dtd. 03.11.2021. The observation of the Commission is furnished at Para No. 17 of the Tariff Applications of OHPC for the FY2022-23. Being aggrieved on the order of OERC, OHPC is in the process of filing review petition within the time limit.

Since the principle of truing up to FY 2015-16 is still in dispute, OHPC has prepared the truing up from FY 2015-16 to FY-2020-21 which will be filled before the Commission after final decision on truing up to FY-2015-16.

OHPC stated that as per OERC (Terms & Conditions for determination of Generation Tariff) Regulation 2020 under the head “Tariff Petition” is stipulated as follows:

“Notwithstanding anything contained above the existing generation plants of OHPC and OPGC (UNIT-I & II) may make an application as per the Format prescribed by the Commission for determination of tariff as per annual schedule, by November 30th of every year for determination of tariff in respect of the units of the generating station.”

Accordingly OHPC is filing its Annual Revenue Requirement every year based on the latest Audited Account available at that time.

Regarding Truing Up of OHPC Power Stations from FY1996-97 to FY2015-16 registered under Case No. 55/2020, OERC has disposed the Case Vide their Order dated 03.11.2021. The considered observations of the Commission have been furnished at Para No. 17 of the Original Tariff Applications of OHPC for the FY2022-23. Based on the observation of the Commission under Para No. 90 of the above order, OHPC has filed the review petition from FY2004-05 to FY2015-16. In the same line, OHPC is also preparing the truing up from FY-2015-16 to FY-2020-21 which will be filed before the Commission shortly.

33. **Non-Tariff Income:**

Objector Shri Somya Ranjan Patnaik, Hon’ble MLA submitted that Non-Tariff Income (NTI) proposed by OHPC is not calculated as per Regulation Nos. 19, 26 & 41 of the OERC (Terms & Conditions for determination of Generation Tariff) regulations, 2020 and considered only Rs.2.40 Crs. in the ARR for FY 2023 by misconstruing the aforesaid regulations. Petitioner has not furnished the reason behind the reduction in income from investment during FY-2021 and for approval of NTI a prudent check of the Financial Statement of the FY 2021 of the petitioner may be undertaken.

Rejoinder

OHPC submitted that the Non-Tariff Income is dealt under Clause No.41 and clause no 26 (1) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. Hence OHPC has considered Rs. 2.402Crs towards deductible Non-

Tariff income in the present Tariff which may be considered by the Commission for different power stations for the FY2022-23.

34. **Total Annual Fixed Cost**

Objector GRIDCO submitted that the total ARR of OHPC for FY 2022-23 may be reduced to Rs 409.209 Cr by considering the non-tariff income of 144.75 Cr against the proposed ARR of amount 567.33 Cr by OHPC. Considering the same, average tariff, proposed by OHPC of 100.96 P/U may be lower down to 72.82 P/U FY 2022-23.

Rejoinder

OHPC submitted the Station wise ARR and Tariff for the FY 2022-23 proposed by is as follows:

Table - 25

(Rs. in Crs.)

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
Existing Saleable Design Energy (MU)	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
Return on Equity	2.944	1.294	10.530	13.200	5.570	33.539	50.313	83.85
Interest on Loan	0.583	0.374	0.374	1.922	4.182	7.435	1.043	8.48
Depreciation	4.291	3.486	8.773	9.312	5.271	31.133	43.015	74.15
O&M Expenses	63.262	65.863	61.035	68.303	31.927	290.390	96.803	387.19
Interest on working capital	2.382	2.443	2.450	2.771	1.340	11.386	4.674	16.06
Total Cost	73.461	73.461	83.162	95.508	48.290	373.882	195.848	569.73
Less Non-Tariff Income	0.124	0.035	0.224	1.969	0.006	2.361	0.041	2.402
Total ARR for FY2022-23	73.337	73.426	82.938	93.539	48.284	371.524	195.807	567.328
Average Tariff (p/u)	141.10	89.14	70.82	138.13	99.53	101.04	100.81	100.96

OHPC stated that the amount of outstanding dues is because of non-payment of energy bills by GRIDCO which they already have claimed in the ARR. This is purely a fault of GRIDCO. Payment of interest on default in the performance by GRIDCO should not be passed in the tariff. Further, the amount of the securitized debt is the energy bill which is component of depreciation, ROE, hydrology fund etc, which otherwise would have earned revenue of OHPC as tariff income. Hence question of reduction of the same amount from ARR of OHPC as claimed by GRIDCO is not justified.

35. **Application Fees and Public Expenses**

Objector GRIDCO submitted that the amount of Application Fees and Public Expenses claimed by OHPC has a steep increase year after year. Hence OHPC may submit

reasons for such steep increase and submit these claims in True Up of respective years along with documentary evidence.

Rejoinder

OHPC submitted that OHPC is filing the petition for approval of reimbursement of publication expenses based on audited account of previous years and claiming the differential expenses between approved figure and actual figure in petition for approval of ARR of subsequent years.

As per the above practice though the Commission has approved Rs.1.50 lakhs based on the audited account of FY-2019-20, OHPC has incurred expenditure of Rs.1.93 Lakhs towards publication expense during Tariff approval of OHPC for the FY2021-22. Therefore, OHPC submitted to approve the differential publication expense of Rs 0.43 Lakhs of FY2021-22 in the Tariff approval of present year. The copy of publication expenses for FY2021-22 is also submitted in the Original Application for reference.

OHPC stated that since OHPC has incurred expenditure of Rs.1.93415 Lakhs towards publication expense during Tariff approval of OHPC for the FY 2021-22 against approval of Rs.1.5Laks, the Publication Expenses for FY 2022-23 has been escalated to Rs.2.0Lakhs.

36. **ARR and Tariff**

One of the objectors Shri Ramesh Chandra Satpathy submitted that OHPC should not place up valuation demand of Government of Odisha as it has already been settled and finalised by the Commission in their last ARR orders for FY 2019-20. The application filed by OHPC for increasing tariff should not be accepted as the company is paying dividend and have surplus fixed deposit.

Objector GRIDCO submitted that total project cost of Rs.2421.07 Cr may be considered in tariff calculation based on historic cost.

Rejoinder

OHPC stated that the ARR & Tariff of OHPC Power Stations is computed for FY 2022-23 without considering the impact of Govt. Notification No. 5843 Dtd. 03.07.2015 in respect of up valuation of generation asset.

Payment of dividend by OHPC to Govt. of Odisha (but not Govt. of India as stated by the Objector) is the compliance of Sec-123 of the Companies Act 2013. As per the said

section when a company makes any profit, it is liable to pay dividend to its shareholders read with Govt of Odisha guidelines from time to time. So OHPC paid dividend to its shareholders i.e. Department of Energy, Govt. of Odisha and it has no effect on the tariff of OHPC being a non-tariff item. So the contention of the objector is not correct and may be set aside. OHPC stated that the difference of Rs. 6.95 Cr between the project cost as claimed by OHPC & GRIDCO is arising due to the reason below:

- i) The Additional Capitalization of Rs 0.52 Cr towards expenditures incurred in Corporate office is apportioned and added to audited Capital cost of individual Power House of OHPC.
- ii) In case of CHEP, Chiplima OHPC has added Rs. 6.42 Crs as notional IDC considering the loan component of the project cost.

37. **Performance of OHPC**

Objector Shri Ramesh Chandra Satpathy suggested to appoint a fact finding committee to assess efficiency of each units of OHPC for the greater interest of the consumers.

Rejoinder

OHPC is carrying out preventive maintenance like daily, quarterly, annual maintenance & capital maintenance as per guidelines prescribed Original Equipment Manufacturer to improve the availability of the machines. Also OHPC is conducting Residual Life Assessment of old machines to assess the requirement for timely replacement of critical spares to enhance the life of the machines and its auxiliaries. If required need based Renovation & Modernization & Capital Maintenance is carried out after in-principle-approval of OHPC BoD and subsequently by the OERC.

OHPC has been providing better living and working conditions along with various welfare facilities like provision for free residential accommodation, free medical facilities at the Project Hospitals/ Dispensaries/ Health Centres and free drinking water supply for the employees and their family members at different Units keeping separate budgetary provisions for such welfare measures. OHPC Management is also concerned for the welfare of the employees of the organisation to protect the health and safety of the employees in the work place, hence the allegations raised are not correct.

OHPC submitted that despite investment by OHPC in Renovation Modernization & Capital Maintenance OHPC is providing cheapest power (i.e around 70 to 90 paise per

Unit) in the State of Odisha. It is also the one of the cheapest power in the National scenario.

OHPC submitted that it shall be worthwhile to mention that the performance of OHPC could not improve further due to some uncontrollable factor like hydrology failure, Decrease in live storage capacity of the Reservoir due to silting, Industrial water consumption from the reservoir, Restriction by generation in HHEP below 595ft by DoWR to facilitate irrigation etc.

38. **Sale of 5 MW share of power from HHEP, Burla**

Objector Shri Somya Ranjan Patnaik, Hon'ble MLA submitted that as per provisions of PPA between HHEP and CSPDCL, petitioner has not factored in the revenue of 3 Cr in its ARR for sale of energy of 5MW or 16.664 MUs to CSPDCL from HHEP. The Commission may accordingly consider and factor the sale of 5 MW/16.66 MUs power to CSPDCL in the ARR of both OHPC and GRIDCO in order to reduce the average tariff of HHEP/average BSP of GRIDCO proportionately.

Rejoinder

OHPC submit the following views regarding adjustment of sale of 5MW share of power from HHEP, Burla.

Case - I: (If 16.644MU is deducted from the Design Energy of HHEP)

OHPC is of the view that in case the Revenue collected from CSPDCL is considered as deemed revenue and deducted from HHEP's ARR then 16.644MU for 5MW share of CSPDCL shall be deducted from saleable energy of HHEP, Burla for fixation of generation Tariff of HHEP, Burla. In that case the Energy Charge Rate of HHEP for billing for sale of power to GRIDCO shall increase.

Case - II: (If 16.644MU is not deducted from the Design Energy of HHEP)

In the present case the Commission has not reduced the Design Energy HHEP by 16.644 MU, as a result HHEP shall have to supply 677.17MU and maintain the availability of 75% to recover its Annual Revenue Requirement. Besides this HHEP shall have to supply 16.644MU to CSPDCL from its generation at the OERC approved rate to meet the requirement made by State of Odisha through the interstate memorandum of agreement 1983. So it may be appreciated that HHEP is striving hard to meet the dual responsibilities i.e. supplying 677.17MU to GRIDCO and 16.644MU

to CSPDCL and in the process HHEP is supposed to supply 16.644MU to CSPDCL over and above its approved saleable design energy of 677.17 MU which is kept for GRIDCO.

Keeping in the view of the above analysis, the Commission in previous orders has not considered the adjustment of both revenues treating 677.17MU Power supplied to GRIDCO and 16.644MU Power supplied to CSPDCL separately as two beneficiary of HHEP, Generation.

39. **Absence of Multi Year Tariff Approach**

Objector Shri Somya Ranjan Patnaik, Hon'ble MLA stated that OERC Generation Tariff Regulation 2020 specifies about adopting MYT principles which OERC has not adopted.

Rejoinder

OHPC submitted that as per the practice & principles laid down in the tariff orders of OHPC for each years, OHPC has been filling the tariff petition for every years covering the following:

- i. Additional capitalization as per audited account and estimated additional capitalization for respective tariff years of the tariff period and
- ii. Decapitalisation
- iii. Forecast of expected revenue and estimates of quantum of electricity to be generated by each unit.

40. **Miscellaneous earnings of OHPC**

Objector GRIDCO submitted that the Commission may consider the entire non- tariff income of Rs.144.75 Cr for tariff computation of OHPC for 2022-23 so that the benefit of the same can be passed to the end consumers.

Rejoinder

OHPC referred the clause 41, 26(1) and 26 (2) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 which dealt with treatment of Non-tariff income.

OHPC submitted that the amount of outstanding dues is because of non-payment of energy bills by GRIDCO which they have already claimed in ARR. This is purely fault

by GRIDCO. Payment of interest on default in the performance by GRIDCO should not be passed in the tariff. Further the amount of securitized debt finds place in different components such as depreciation, ROE, hydrology fund etc. which otherwise earned revenue for OHPC as tariff income. Hence question of reduction of the same amount from ARR of OHPC as claimed by GRIDCO is not justified.

41. **Polavaram Project of AP**

Objector Shri Soumya Ranjan Patnaik, Hon'ble MLA stated the Polavaram project is an under-construction multi-purpose project including generation of 960 MW hydro electricity on the Godavari River in the West & East Godavari districts in Andhra Pradesh and the back water of the reservoir spreads into parts of Odisha states. The objectors seeks the action taken report from OHPC.

Rejoinder

OHPC submitted that sharing of water and availing compensating power among two states is an inter-states matter and is dealt by the respective State Govt.

42. **Other Issues**

Objector Shri Kamla Kanta Das stated that OHPC has 6 hydro power stations in the state. The power generated by these plants is used to light up cities and towns but the native people of the areas surrounding the plant still remain in the dark without electricity. The generated electricity is sold by OHPC to GRIDCO at cheaper rate which is further sold at BSP rates to other distribution companies and all of them make profit. But the per capita income of the district and areas where plants are generating power remains very low. The Objector suggested to allocate at least 10% of power generated by OHPC plants free to the District. District collector/local Panchayat may decide to distribute the same for development of surrounding area of the OHPC plants.

Rejoinder

OHPC submitted that as per the Indian Electricity Act 2003 the business of distribution of Electricity is carried out by the respective DISCOMs. OHPC sells the entire power to GRIDCO through long term power purchase agreement. Moreover, DISCOMs & Govt. through various Schemes & CAPEX programmes, construct new lines & substations to provide electricity to the required consumers.

OHPC submitted that OHPC supplies cheaper power to GRIDCO as per the approval of OERC. As regards the low per capita income of the districts, this is beyond the scope of OHPC.

43. **CEA Report**

Objector Shri Somya Ranjan Patnaik, Hon'ble MLA stated to consider the recent report published by CEA in the instant proceedings and generation tariff.

Rejoinder

OHPC in response to the CEA general review report 2021 stated that, OHPC is not the appropriate authority in deciding the ratio of CPP & Non CPP category of power in the state and making availability of the same.

44. **Commissioning date of Indravati Power Station**

Objector Shri Somya Ranjan Patnaik, Hon'ble MLA stated that OHPC has disclosed the date of Commissioning / COD and normative Parameters of six power stations in the petition, in which the CODs of Indravati for Unit-1, 2, 3, 4 (150x4=600MW) are given as dated 19.09.99, dated 28.12.99, dated 04.01.00 & dated 16.04.01 respectively whereas the reply states that the commissioning of above four Units have been done on FY 2002. So, the reply of the petitioner is not correct because all the Units have been commissioned prior to FY2002.

Rejoinder

OHPC submitted that in a green field hydroelectric project where there are more than one Units, the Commercial Operation date of that newly constructed power station shall be the Commercial operation date of last Unit. The useful life of the hydroelectric project is calculated from the COD of power station but not Commissioning date of the individual Units. In this connection Clause No 3(1)(o) of OERC (Terms and Conditions for determination of Generation) Tariff Regulations 2020 may please be referred. Accordingly though Unit-1, Unit-2, Unit-3 & Unit-4 of UIHEP were commissioned on 19.09.99; 28.12.99; 04.01.00 & 16.04.01 respectively but the Commercial Operation Date of UIHEP shall be the commissioning date of last Unit i.e. on 16.04.2001 which come under FY 2001-02. Therefore OHPC has mentioned the COD of UIHEP as FY 2001-02.

45. **Violation of Labour Law**

Objector shri Ramesh Chandra Satpathy stated that OHPC is violating the labour law by changing the rates of various Allowances and not paid the 50% arrear wages of worker since 2018 and the wages may be paid as per the settlement.

Rejoinder

OHPC submitted that regarding revision of rate of Hydro Allowance, Remote Area Allowance, Special Allowance, Shift Allowance for the OHPC employees, this is to submit that rate of allowances is revised by the OHPC Management from time to time as per requirements keeping in view the market price of necessary commodities and rate of similar allowances in other organizations of State Power Sector. Accordingly, rate of the above said allowances have been appropriately revised by the Management as per the wage revision settlement made between Management and Unions & their Federations. There is no labour law violation in such revision of the allowances.

OHPC stated that regarding 50% arrear dues towards Wage revision of OHPC Non-executives, OHPC being 100% Govt. owned PSU had already sanctioned 50% arrear towards wage revision as per the Govt. of Odisha directives. Further payment of 30% arrear dues towards Pay/ Wage revision is under process by OHPC Management as per the recent decision of Govt. of Odisha.

46. **Performance of GEDCOL**

One of the Objector raised objection that GEDCOL (Green Energy Development Corporation) has been incorporated as a 100% subsidiary of OHPC on dt. 18.04.2013 in which Rs50.32Cr has been invested as equity. Around 10 years have elapsed since the formation of GEDCOL but the performance is dismal. The only 20MW Manmunda project of Boudh is found in the books of GEDCOL. Therefore it is necessary for OHPC and its subsidiary companies to improve the performance.

Rejoinder

OHPC submitted that GEDCOL has been formed on 18.04.2013 (Govt. of Odisha Gazette Notification. 532, dated.26.03.2013) as a public company under provisions of the Companies Act, 1956 as a wholly owned subsidiary company of OHPC Ltd to promote renewable energy in the state. The following are the main objectives of GEDCOL:

GEDCOL is the Member-Convenor of the State Technical Committee (STC) constituted for of one (1) MW and above On-Grid Solar & Hybrid Power Projects. It has facilitated sanction of projects of total capacity 1681.65 MW which has been cleared by STC out of which 411 MW has been commissioned.

Activities of GEDCOL

A) PROJECTS ALREADY COMPLETED (24MW)		
Name of the Project	Capacity	Status
1) Grid connected Ground based solar project (JNNSM, Ph-II, Batch-I, VGF Scheme, MNRE)	20 MW	<ul style="list-style-type: none"> • Commissioned in June-2016 at Manmunda, Boudh • PPA was executed with SECI @ Rs.5.45 per kwh • Project cost.Rs.160 Crores (Approx.).
2) Grid connected Rooftop Solar Project, MNRE	4 MW	<ul style="list-style-type: none"> • Commissioned in March 2019 on 65 Govt. buildings in Bhubaneswar (39) & Cuttack (26) • PIA was executed with Azure Power & tariff was Rs. 5.69 per kWh • Project cost. Rs.32 Crores (Approx.).

B) PROJECTS TO BE DEVELOPED UNDER JV MODE (583MW)		
Name of the Project	Capacity	Status
1) Mandira Small Hydro Project, Sundargarh to be developed under JV mode with SAIL	10	<ul style="list-style-type: none"> • JV formed with SAIL in Sept 2018, namely GEDCOL SAIL POWER CORPORATION LTD (GSPCL) with 74:26 share-holding. • The project cost is Approx. Rs.100 Crs. • The Letter of Intent has been issued on 23.07.2021 and the Contract Agreement has been signed between GSPCL and HIPL-RSVCPL(JV) on 08.09.2021. • The construction work started.
2) Floating Solar Project with NHPC, UMREPP Scheme, MNRE	500	<ul style="list-style-type: none"> • MOU executed with NHPC on 20/07/2020. • The Promoters agreement, MoA and AoA has been signed on 04.01.2022 for formation of JV Company. • In the 1st Phase the JV Company is going to implement 300 MW Solar projects which will start generating Solar Power within coming two years with MNRE approval. • Now the tender process has been concluded and M/s Tata Power Solar has emerged as L1 bidder for the same project. • The Project cost is approx. Rs.2000 Crs.
3) Ground-Mounted Solar	8	<ul style="list-style-type: none"> • Contract Agreement was executed with

Project		<p>M/s Sun Source Energy Pvt. Ltd. in June 2020 for development of 8MW ground mounted solar project at 5 sites of OPTCL grid sub-station: Baripada, New Bolangir & Jaynagar and OHPC & GEDCOL Plant-Mukhiguda & Manamunda.</p> <ul style="list-style-type: none"> • Project cost = Rs.33.8 Crs. • PPA executed with GRIDCO @ Rs. 2.84/kWh in Sept-2020. • Installation work has completed and connectivity work is going on. • The Project is to be commissioned shortly.
4) Ground mounted Solar Project at Chipilima	10	<ul style="list-style-type: none"> • Project will be developed on 60 acres of unutilised land at Chipilima Hydro Electric Project area in Sambalpur. • The Detail Project Report (DPR) has been prepared and submitted by M/s GERMI. • The Tender has been floated for supply, Erection, testing and commissioning of the Project with 10 Years of Operation & Maintenance. • The Project cost is Rs.50 Crs.(Approx.) as per DPR
5) Solar Park	55	<ul style="list-style-type: none"> • As per the minutes of meeting held on 06th May-2021 through VC under the chairmanship of Principal Secretary to Govt. Deptt. of Energy and Chairman, GRIDCO on development of 275 MW Solar Park, it was decided that since land is immediately available in Boudh district solar plant of about 55-60 MW solar capacity can be implemented in 1st phase. • Accordingly GEDCOL is planning to implement the same Project in Boudh District. • The land allotment letter issued by IDCO for 261.52 Acres of land in Boudh District and same was accepted by GEDCOL. The required document for signing of lease agreement has submitted by GEDCOL to IDCO. • After receiving the Draft lease agreement from IDCO the agreement is to be signed. • The Project cost is approx.Rs.275-300 Crs.

C) SMALL HYDRO ELECTRIC PROJECT UNDER IMPLEMENTATION BY GEDCOL (7.2MW)		
Name of the Project	Capacity (in MW)	Status
1) Kanupur Small Hydro Project, Keonjhar	4.2	<ul style="list-style-type: none"> DPR & Tender documents prepared and submitted by WAPCOS Project will be taken up after completion of river gap closing work by DoWR. Estimated project cost = Rs. 18.6 Crs as per DPR.
2) Jambhira Small Hydro Project, Mayurbhanj	3	<ul style="list-style-type: none"> DPR & Tender documents prepared and submitted by WAPCOS. Project will be taken up after getting confirmation of Water availability from Department of Water Resources the work will be carried out by GEDCOL. Estimated project cost = Rs.17.02 Crs as per DPR.

D) PROJECTS UNDER PIPELINE (5400MW)		
Name of the Project	Capacity (in MW)	Status
Floating Solar Project with European Union Consortium	5400	<ul style="list-style-type: none"> European Union has conducted studies on 12 hydro & irrigation reservoirs in the state and prepared PFR for 5400 MW floating solar potential on 17,800 acres of water surface area in November-2019. European Union Consortium is entrusted to prepare Detailed Project Report (DPR) of Hirakud and Indravati Floating solar project. The preparation of DPR is under progress.

47. VIEWS OF THE CONSUMER COUNSEL (Para 47)

On behalf of Consumers the World Institute of Sustainable Energy (WISE), Pune the Consumer Counsel had made a presentation on the Analysis of ARR and Tariff filing of OHPC for 2022-23. The Consumer counsel's observations /suggestions are summarised below:

- Comparative analysis of ARR approved by the Commission for FY 2021-22 to that of the proposed ARR for FY 2022-23 reveals that there is 13.08% increase. However for Machkund HEP, proposed tariff is Rs1.10 / kWh for FY 2022-23, which is lower than the approved tariff for FY 2021-22 at Rs1.37 /kWh.

- The Commission may review the reservoir level as on Nov 2021 vis-a-vis the level recorded as on Nov., 2020 and the anticipated and actual generation projected by the Petitioner carefully. The reservoir level as on Nov 2021 are noted to be low (except RHEP, HHEP) compared to the level recorded as on Nov 2020 and anticipated generation for FY 2021-22 is projected to be lower than FY 2020-21 by around 20%. The Commission may review the same. If the factors behind the increase are controllable, then the tariff may be set accordingly.
- OHPC has considered the historical cost of its power stations as on 01.04.1996 plus new capitalization and decapitalization after 01.04.1996 up to FY 2020-21 for computation of tariff for FY 2022-23. OHPC is claiming for tariff determination for FY 2022-23 considering already approved additional capitalization of Rs.686.68 Cr (up to FY 19-20), and additional capitalization of Rs.91.215 Cr (in FY 2020-21), after deducting the grant from PSDF Fund. Additional capitalization of Rs.91.215 Cr may be reviewed for tariff determination of FY 2022-23.
- While calculating equity base, the additional capitalization up to FY 2020-21, has been claimed, which may be reviewed by the Commission.
- OHPC has not considered interest on government loan and normative loan of UIHEP for FY 2022-23 as per the directives of the Commission in previous orders. OHPC has claimed interest on normative loan on account of additional capitalization for its different power stations which may be approved as per earlier orders of the Commission.
- OHPC in the present tariff application has claimed the differential amount of depreciation amounting to Rs.5.59 Crs for the FY 2021-22 along with the normal depreciation of Rs.68.56 Crs for FY 2022-23, total amounting to Rs.74.15 Crs. Depreciation may only be approved after due scrutiny of loan repayment and allowable depreciation of different plants of OHPC.
- In case of O&M expenses, the proposed escalation factor may be approved as per the provisions given in OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The Commission may verify the amount to be received from DoWR towards Dam Maintenance Sharing of UIHEP.

- OHPC has claimed interest on working capital on normative basis as per provision under Clause No. 24(4) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. Interest is calculated based on the SBI Marginal Cost of Funds based Lending Rate (MCLR) prevailing on 01.04.2021 plus 300 basis points; i.e. 10%. Working capital may be approved based on approved O&M cost and receivable according to annual fixed cost.
- OHPC has claimed Non-tariff income (NTI) as per Clause 26 and 41 of OERC Generation Tariff Regulations, 2020 and the amount of Rs 2.402 Cr is considered as 50% of deductible non-tariff income. In FY 2021-22 order, the Commission reviewed the audited annual account and found substantial amount as other income and considered Rs.25 Cr. as non-tariff income. So, based on audited account non-tariff income may suitably be considered.

48. **OBSERVATIONS OF THE STATE ADVISORY COMMITTEE (SAC)**

The Commission had convened the meeting of SAC on 11.03.2022 in virtual mode. The observation of SAC on OHPC matter is as follows:

- (i) Shri P. K. Pradhan stated that Hirakud has never achieved design energy of the plant and GRIDCO is not receiving the low cost power, for which high cost power is purchased from other sources. There should be a discussion between GRIDCO, SLDC and OHPC regarding reduced generation of low cost power.
- (ii) In response to the objection raised by some of the SAC members on design energy of Hirakud, Rengali, Chiplima, OHPC submitted that rejoinder has already been submitted in this regard. Regarding MDL level of Burla, raised by Shri Pradhan, OHPC informed that the matter has already been brought to the notice of Water Resource Department and hopefully the matter will be resolved. Regarding sale of power of 16.644 MU to Chhattisgarh, rejoinder has already been submitted. In response to Commission's query regarding enhancement of capacity of OHPC, steps are being taken for setting up 500 MW floating solar both at Rengali and Hirakud. OHPC is also planning for pumped storage plants at 3 high end power stations. In reply to Shri Pradhan's query regarding MDL level 599, OHPC stated that in case of multipurpose HEP generation of

electricity is given least priority over irrigation & water supply and Water Resources Department decides the MDL.

49. **VIEWS OF GOVERNMENT OF ODISHA**

Government of Odisha, vide their Lr. No. 2428/ En., Bhubaneswar, dated 22.03.2022 have submitted their views on the tariff proceeding for FY 2022-23 as follows:

- (i) Considering the surplus revenue (regulatory transfer) and profit of DISCOMs as well as the loss of GRIDCO during the first nine (9) months of the current financial year, there is a scope of increasing the BST for DISCOMs without increasing the RST. The fixed cost of the PPAs signed by GRIDCO as well as the finance cost need to be taken into account in the ARR of the GRIDCO for the year 2022-23.
- (ii) Concession on intra-State transmission charges, wheeling charges given on open access RE power need to be withdrawn forthwith. The Commission may also impose cross subsidy surcharge on RE power. A detailed affidavit in this regard was submitted by the Department before OERC in Case No. 81/2021, which need to be taken into consideration.
- (iii) Operation of OPGC has become unviable because of present level of provisional tariff. OPGC has also filed an application before the Commission for determination of tariff. It may take some time. Hence, OPGC may be allowed reasonable and prudent provisional tariff w.e.f. 01.04.2022 for covering its fixed cost in full.
- (iv) The Government have constructed the entire distribution infrastructure necessary for operationalising the mega lift irrigation points. The DISCOMs have not made any investment. The mega lift irrigation points receive power through dedicated 33 KV lines. Hence, the losses are low and the cost of supply for the mega lift points is much lower than the average cost of supply of DISCOMs. The mega lift irrigation points also use power for 10-15 days in a year as these have not been designed to provide assured irrigation rather these LIPs have been designed to provide protective irrigation for a few days when there is less rain fall. Accordingly, OERC may consider lower fixed charges and energy charges for the mega LIPs.

THE ANALYSIS AND OBSERVATIONS OF COMMISSION OF OHPC'S PROPOSAL (PARA 50 to 67)

50. The Commission has carefully examined and analysed the proposal of OHPC. The written and oral submissions of the objectors have been considered while determining the tariff. The tariff proposal of OHPC contains technical parameters such as type of hydro stations, Normative Annual Plant Availability Factor (NAPAF), potential of energy generation and financial details like loans, capital cost, calculation of depreciation, interest etc. OHPC has furnished the technical and financial details in respect of each of the old power stations as well as of UIHEP. The station-wise apportionment of capital cost, audited figures for additional capitalisation, component wise O&M expenses in respect of all these stations have also been provided along with tariff calculations.
51. During the course of public hearing, the objectors had raised certain issues having direct impact on tariff of OHPC. Point-wise response was submitted by OHPC. Commission's analysis on the issues related to tariff of OHPC are discussed as under:
- Power Procurement from OHPC
 - Project Cost
 - Annual Fixed Cost
 - Two-part Tariff (Capacity Charge & Energy Charge)
 - Tariff for Chhattisgarh State Power Distribution Company Limited (CSPDCL)
 - Issues relating to Machhakund Hydro Electric Project
52. OERC Generation Tariff Regulations, 2020 specifies inter alia about adopting MYT principles under Section 61 (f) of Electricity Act, 2003 while determining tariff. The MYT principle is nothing but is a set of parameters which are adopted consistently for determination of tariff for a control period. It gives predictability to the tariff determination of future years. Our Generation Regulations, 2020 has specified different parameters for each component of tariff for control period ending in the year 2024. The Commission has been adopting these parameters without any deviation during the control period. The same Regulations, 2020 at Regulation 7 (6) provides as follows:
- “(6) Notwithstanding anything contained above the existing generation plants of OHPC and OPGC (UNIT-I & II) may make an application as per the Format prescribed by the Commission for determination of tariff as per annual schedule, by November 30th of every year for determination of tariff in respect of the units of the generating station.”*

Accordingly, OHPC has been filing its ARR and tariff application every year with the Commission. The Commission as per Regulation 1 (4) and Regulations under Chapter 2 of Generation Regulations, 2020 has been determining the tariff of OHPC power stations. Similarly as per Regulation 8 (c) of Generation Regulations, 2020 the generating plants of OHPC are required to file true up application every year for truing up of the accounts of the previous years with respect to capital expenditure including additional capital expenditure for determination of revenue gap/surplus for the previous year(s). Therefore, it is clear that OHPC shall file ARR and tariff application, true up application of capital /additional expenditure every year. The MYT principle should not always be construed as determination of tariff in advance for multiple years. Once true up surplus /gap is determined it shall be given effect to through tariff every year or in succeeding year. OERC has been consistently doing the same. Hence, there will be a dichotomy if tariff is determined in advance and true up is carried out every year. In fact OHPC had filed true up application for the first time for the period upto the year 2015 in Case No. 55/2020 which has been disposed of by the Commission. The true up application for subsequent years are yet to be filed by the Petitioner. Once it is filed, the Commission shall give effect to the same in the succeeding tariff order. This is a continuous process. However, it is otiose because the true up of OHPC only involves capitalisation and additional capitalisation which have been passed through in the tariff order in the earlier years after its recognition. In this connection the order of the Commission in Case No. 55/2020 should be noted and relevant portion of order is reproduced in following paragraph.

“90. In view of this the Commission observes that the OHPC is not entitled to any truing up for the period before the notification of the OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2014 as there was no provision in the CERC Tariff Regulation for truing up under which the Generation Tariff was regulated for the period before 2014. After the notification of OERC Generation Tariff Regulation 2014, truing up is guided as per the provisions of Regulation 2014. Since the truing up is only allowed for the Capitalisation and additional capitalisation it is further observed that the Commission in the ARR allows the capitalisation including additional capitalisation as reflected in the available audited accounts. Therefore there is no further scope for any truing up of these elements. Since the Regulations 2014 do not have any provision for truing up of other elements of expenses and revenue we are not inclined to carry out any truing up on these elements.”

In fact the matter has been dealt in subsequent paragraph in this order. Therefore, the provisions of Regulation regarding adoption of MYT and Truing up is followed by the Commission scrupulously.

53. As per General Review Report of CEA, 2021, the ratio of the installed capacity of CGPs in Odisha is much more than the installed capacity of non-CGP Power Station (state owned power stations and IPPs) as compared to other states. The Commission observed that the power intensive industries in Odisha prefer to install their CGPs for smooth operation of their plants as coal and other materials are easily available to them. One must be aware of the fact that neither OHPC nor the Commission can restrict them for installation of CPPs. Under such situation, the tariff of OHPC shall only be determined based on the Generation Tariff Regulations framed by the Commission following principles and guidelines of Tariff Policy and National Electricity Policy.
54. The Annual Revenue Requirement of OHPC power stations for FY 2022-23 have been determined based on OERC (Terms and Conditions of Determination of Generation Tariff) Regulations, 2020.
55. **Availability of Power from OHPC**
- (a) The design energy all the six generating stations of OHPC is 5676 MU. Deducting 1% towards auxiliary energy consumption and transformation loss, the saleable energy would be 5619.24 MU. The Commission observed that as per the MOM with erstwhile Chhattisgarh State Electricity Board, presently Chhattisgarh State Power Distribution Company Limited (CSPDCL), CSPDCL shall draw energy from Hirakud Power Stations towards its share of 5 MW. As per the agreement between OHPC and CSPDCL, pending the disputes on computation of quantum of power whether to supply 5 MW power on RTC without consideration of PLF or with consideration of PLF, a quantum of 16.644 MU of energy shall be supplied to CSPDCL from Hirakud Power Station annually. Some objectors has urged for deduction of this 16.644 MU energy from the saleable energy of HHEP and to deduct the revenue earned on this account from the ARR of OHPC. Earlier, the Commission had not considered the same as it has very negligible impact on the tariff of OHPC as a whole. Since, the objectors are insisting for such deduction of power and revenue from the ARR of OHPC, the Commission now consider to deduct the energy of 16.644 MU from the saleable energy of HHEP and accordingly, the net availability to GRIDCO from OHPC comes to 5602.60 MU. In the later paragraph, the Commission has considered for deduction of revenue from the ARR of OHPC on this account.

- (b) The Design Energy and saleable energy of all the six power stations of OHPC for computation of tariff for the FY 2022-23 are given in the table below:.

Table – 26

(in MU)

Sl. No	Name of the Power Station	Design Energy for FY 2022-23	Saleable Design Energy for FY 2022-23	Energy Approved for Sale to GRIDCO for FY 2022-23
1	RHEP	525.00	519.75	519.75
2	UKHEP	832.00	823.68	823.68
3	BHEP	1183.00	1171.17	1171.17
4	HHEP	684.00	677.16	660.52
5	CHEP	490.00	485.10	485.10
6	UIHEP	1962.00	1942.38	1942.38
Total		5676.00	5619.24	5602.60

56. Machhakund

Machhakund Power Station is a joint project of Government of Odisha and Andhra Pradesh having installed capacity of 120 MW (i.e. 17 MW x 3 = 51 MW and 23 MW x 3 = 69 MW). As per the new agreement, Odisha has a share of 50% from this power station. The design energy of Machhakund power station is 525 MU and considering 1% towards auxiliary energy consumption and transformation loss, the net energy availability to Odisha 259.88 MU towards its 50% share. The Commission, therefore, approves 259.88 MU to be drawn from Machhakund Power Station during FY 2022-23 towards Odisha share of 50% from this power station.

57. Project Cost

- (a) OHPC has submitted that the re-valued cost of old power stations under OHPC was Rs. 1196.80 Crs. as on 01.04.1996 as per the Department of Energy, Government of Orissa of Notification vide S.R.O No. 254/96 Dt. 01.04.1996. The Commission in their order dated 23.03.2006 has approved the same. Further, the Commission, in the order dated 20.03.2008 approved Rs. 1195.42 Crs. as final capital cost of UIHEP for the purpose of determination of tariff. However, the Tariff of Old power stations is being determined on the historical cost of old power station of OHPC for Rs. 479.80 Crs as per the Notification No. 1068 Dtd. 29.01.2003 of DoE, GoO.
- (b) OHPC in view of the observation of the Commission in the Tariff Order of OHPC for the FY 2017-18, FY 2018-19, FY 2019-20 and FY 2020-2021, has

considered the Project Cost of old power stations equal to historic Cost as on 01.04.1996 plus new additions after 01.04.1996 up to FY 2020-21 (audited) less asset reduction upto FY 2020-21. OHPC has also assumed extension of keeping in abeyance of the Upvaluation of Asset by the Government of Odisha. Accordingly OHPC has considered their project cost as Rs.1181.51Cr for the old OHPC power station for FY 2022-23 in their ARR calculation. The Project Cost of UIHEP is also accordingly considered at Rs.1246.51 Cr by OHPC for calculation of ARR & Tariff for FY 2022-23. The Commission after analysis considers the same project cost for Old stations and UIHEP for ARR determination for FY 2022-23.

58. Additional Capitalisation

- (a) OHPC has stated that it has made additional capitalization as per Clause No 12 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations for different works like Power House Electrical & Mechanical Works, Water Supply Installation, Electrical Installation, Buildings, Power House Civil Works, Hydraulic Works, Dam, Tunnel & substation equipments etc.
- (b) OHPC has stated that based on the Audited Accounts of FY2019-20 (prepared as per IND AS 2015), has considered the additional capitalization of Rs. 91.215 Crs for calculation of Tariff for FY2022-23 details of which is furnished in the following table.

**Table - 27
New Additions (in Crs)**

SL. No	Power Stations	New additions from 01.04.1996 to 31.03.2020 (Approved)	New additions during FY 2020-21 (Audited)	New additions proposed in Tariff calculation for FY 2022-23
(1)	(2)	(3)	(4)	(5)=(3)+(4)
1	RHEP	61.402	1.901	63.30
2	UKHEP	27.154	0.684	27.83
3	BHEP	224.492	1.971	226.46
4	HHEP	265.906	17.966	283.88
5	CHEP	51.735	68.052	119.79
6	Sub Total	630.69	90.574	721.264
7	UIHEP	1250.779	0.640	1251.419
8	Total	1881.47	91.214	1972.683

- (c) The Commission had earlier approved capital cost of Old Power Stations of OHPC with additional capitalisation from 01.04.1996 to 31.03.2020 at Rs.630.69 Crs and that of UIHEP as Rs.1250.779 Crs totalling to Rs.1881.47 Crs upto FY 2019-20. After new additions as per the Audited Accounts of FY2020-21 amounting to Rs. 91.214 cr (New additions Rs. 99.018cr minus Rs.7.803 cr towards PSDF grant) the total capital cost is Rs. 1972.683 cr.

59. **Decapitalisation**

- (a) As regards decapitalisation OHPC has given the details of asset reduction of different power stations of OHPC from FY2011-12 to FY19-20 which is furnished in the following table:

Table-28

(Rs. in Crs)

Sl. No.	Name of the Power Stations	Asset reduction during the FY 2011-12 to FY 2019-20 (Approved)	Asset reduction during the FY 2020-21	Total Asset reduction during the FY 2011-12 to FY 2020-21
(1)	(2)	(3)	(4)	(5)=(3)+(4)
1	RHEP	0.089		0.089
2	UKHEP	0.494		0.494
3	BHEP	0.534		0.534
4	HHEP	11.511		11.511
5	CHEP	1.278	5.650	6.928
	Sub Total	13.905	5.650	19.556
6	UIHEP	4.912		4.912
	Total	18.817	5.650	24.468

- (b) The Commission had approved Rs.18.817 Crs. as decapitalisation of the asset of different power stations of OHPC from FY2011-12 to FY 2019-20. There is decapitalization of Rs.5.65 Cr in case of Old power stations of OHPC for FY 2020-21. The Commission after analysis considers the same towards the decapitalisation to the old power plants and UIHEP.
- (c) Accordingly the Project Cost for Computation of Tariff for FY 2022-23 considering the total approved (up to FY 2019-20) & audited figure for FY 2020-21 on account of Additional Capitalization & Decapitalization, proposed by OHPC is approved in the Table below:

Table -29
Project Cost of Hydro Projects for tariff Calculation for FY 2022-23 (Rs. in Crs.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2020-21	New additions considered in Tariff calculation FY 2022-23	Project Cost considered Tariff calculation based on Historic Cost
(1)	(2)	(3)	(4)	(5)=(2)+(4)+(3)
RHEP	91.09	0.09	63.30	154.30
UKHEP	108.31	0.49	27.83	135.65
BHEP	115.42	0.53	226.46	341.35
HHEP	72.75	11.51	283.88	345.11
CHEP	92.23	6.928	119.79	205.09
Sub Total	479.80	19.556	721.264	1181.51
UIHEP	1194.79 (approved project cost)	4.912	56.63	1246.51
Total	1674.59	24.468	777.90	2428.02

The Commission has also not considered the effect of up-valuation of assets in determining the Tariff and ARR for FY 2022-23 in view of such principles already adopted by the Commission for fixation of tariff.

60. Determination of Tariff

(a) Interest on Loan:

OHPC has stated that the loan liabilities of OHPC consist of State Government loan and Normative Loans. In case of old stations of OHPC as on date there is no outstanding loan liability.

(i) Normative Loans of different Power Stations due to Additional Capitalization

OHPC has stated that though, 9.8% State Govt. loan has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP is considered @ 9.8% as per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2021-22 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2021-22 based on PFC interest rate applicable to HHEP, Burla. The Normative loan of UIHEP due to the additional capitalization based on audited accounts of FY 2020-21 is considered

@7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms.

- (ii) As regards the Normative Loan of Rs 78.74Cr of UIHEP, OHPC stated that based on the earlier directions of the Commission, OHPC has not considered the impact of interest on Govt Loan & Normative Loan of UIHEP in the Tariff Calculation of OHPC for the FY2022-23. Similarly OHPC has not claimed the accumulated interest on Govt Loan & Normative Loan of UIHEP as regulatory asset in view of the directives of the OERC in this regard.
- (iii) Considering the above facts, the unit wise interest on loans as described above, the amount proposed by the OHPC for the FY 2022-23 is presented in the following table:

Table –30
Interest on Loan for the FY 2022-23 (Rs. In Crs)

Sl. No.	Source of loan	Interest on loan for FY 2022-23						TOTAL
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	
1.	Normative loan	0.583	0.334	0.374	1.922	4.182	1.043	8.438
2.	Govt. Loan	-	-	-	-	-	-	-
Total		0.583	0.334	0.374	1.922	4.182	1.043	8.438

- (iv) The Commission after analysis of the same approves an interest payment of Rs.8.438 cr. for all stations of OHPC for FY 2022-23. The corresponding figure for the last year was Rs.4.968 cr.

(b) Depreciation:

- (i) OHPC has computed depreciation for the FY 2022-23 @ 2.57% on the Historic project cost as on 01.04.1996 (excluding de-capitalization) plus an additional capitalization w.e.f. 01.04.1996 up to FY 2020-21. The Unit wise depreciation so calculated is compared with the Loan repayment and the amount whichever is higher is considered as depreciation for Tariff computation.
- (ii) OHPC in the current petition has stated that there was a less approval of Rs.5.60 cr towards depreciation by considering the depreciation @ 2.57% of project cost only and ignoring depreciation on account of higher loan repayment. OHPC has stated that the Commission had approved the depreciation of UKHEP, BHEP, HHEP & CHEP considering 2.57% of project cost which was higher than the loan repayment for these Power stations. The Commission had approved Rs5.52Cr less for UIHEP and Rs.0.07Cr less for RHEP as these power stations

had Loan repayment higher than depreciation @2.57% of project cost. Therefore, OHPC has claimed the above shortfall of Rs.5.59 Crs in the present Tariff.

- (iii) The comparative statement for actual repayment of loans and depreciation @2.57% for the FY 2022-23 as shown in the Table below to arrive at the depreciation amount to be claimed in the ARR & Tariff of OHPC for the FY 2022-23.

Table –31
Depreciation for 2022-23 **(Rs. In Cr.)**

Sl. No.	Power Stations	Project Cost	Loan Repayment Amount	Depreciation @ 2.57%	Depreciation Claimed by OHPC which is higher of actual loan repayment or depreciation @2.57	Differential depreciation claimed for FY 2021-22	Depreciation Claimed by OHPC for FY 2022-23	Depreciation Approved FY 2022-23
1.	RHEP	154.30	4.22	3.97	4.22	0.07	4.29	3.97
2.	UKHEP	135.65	1.24	3.49	3.49		3.49	3.49
3.	BHEP	341.35	1.53	8.77	8.77		8.77	8.77
4.	HHEP	345.11	9.31	8.87	9.31		9.31	9.31
5.	CHEP	205.09	4.91	5.27	5.27		5.27	5.27
6.	UIHEP	1246.51	37.49	32.04	37.49	5.52	43.01	32.04
Total		2428.02	58.71	62.40	68.56	5.59	74.15	62.40

- (iv) OHPC has claimed additional Rs.5.59 cr towards differential claim for FY 2021-22 in addition to depreciation for FY 2022-23 of Rs.68.56 crs.
- (v) OHPC in the above table have calculated the depreciation taking into account the depreciation at pre-1992 notified value of 2.57% (Rs.62.40 cr) and compared it with the loan repayment obligation (station wise). The depreciation claim for FY 2022-23 is the higher of the two there by claiming Rs.68.56 cr and the final claim by OHPC under depreciation is Rs.74.15 cr (Rs 68.56 cr for FY 2022-23 plus differential claim of FY 2021-22 of Rs.5.59 cr) for the ARR calculation
- (vi) The Commission analysed the submission of the OHPC in respect of claim of depreciation in the ARR. As per clause 23 of the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 the depreciation shall be computed from the date of commercial operation of a generation station or unit thereof. The capital cost of the assets admitted by the Commission shall be the base for calculation of depreciation. The Regulation further provides that for

existing plants of OHPC as per the direction of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of assets. The Commission after detailed analysis of the audited accounts now allows the depreciation of Rs.62.40 cr for the ARR of 2022-23 as per clause 23 of the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

(c) Return on Equity (RoE)

- (i) OHPC stated that the Commission in its tariff order dtd.19th April, 2002 in Case No. 65 of 2001 and Case No. 04 of 2002 vide Para 6.4.17 decided the equity component of OHPC. Based on the above order and subsequent Government Notification dtd.29.01.2003, the Return on Equity was allowed to OHPC on new investments made after 01.04.1996.
- (ii) The OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 Clause No. 20(2) provides for the mechanism of allowing ROE which is reproduced as follows:
“Provided that return on equity in case of OPGC (Unit - I & II) and OHPC stations shall be as per the provisions of the PPA.”
- (iii) The Commission in the recent past years has approved the Return on Equity as per the provisions of PPA. OHPC in the present Tariff has followed the same principle for computation of RoE.
- (iv) The Commission, in the order dated 20.03.2008 has approved Rs. 1194.79 Crs. as final capital cost of UIHEP for the purpose of determination of tariff. Since UIHEP was commissioned after 01.04.1996, the investment in UIHEP is considered as new investment. Equity Base for Govt. investment in UIHEP was considered as Rs 298.70 Crs (i.e.25% of the project cost). Any decapitalization made in UIHEP is deducted from the Original Approved Cost and Equity is calculated @25% on balance Original Project Cost after deduction of decapitalization. However for further additional capitalization over Original Project Cost by OHPC, the equity base of 30% has been considered as per the provision in clause No. 16 of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020. The Commission has approved the same in the past years. OHPC has considered the same principle in the present tariff for the FY 2022-23.

- (v) OHPC further stated that in case of Old power Stations OHPC has computed the Equity Base considering approved Additional Capitalization from 1996-97 onwards upto 2019-20 & audited cost for capitalization for FY 2020-21. 30% of these additional capitalization are considered as Equity Base as per the provision in clause No. 16 of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020.
- (vi) OHPC had paid Rs 57.71 Crs towards income tax for FY 2020-21. This has been reflected in the audited accounts of OHPC. The details of computation of RoE for different power stations of OHPC for the FY 2022-23 as per the OERC (Terms & Conditions for determination of Tariff) Regulations, 2020 is furnished in the following table:

Table - 32
Computation of RoE for different power stations of OHPC for FY 2022-23:-
(Rs. in Crs.)

Name of the Power Station	Capital Addition considered for RoE for FY 2022-23 (in Crs)	Share of Equity (%)	Value of Equity capital (in Crs)	ROE @15.5% for old power station & @16% for UIHEP for 2022-23 (in Crs)	ROE approved by OERC for 2021-2022 (in Crs)
(1)	(2)	(3)	(4)=(2)*(3)	(5)	(6)
RHEP	63.30	30	18.990	2.944	2.855
UKHEP	27.83	30	8.350	1.294	1.263
BHEP	226.46	30	67.938	10.530	10.439
HHEP	283.88	30	85.163	13.200	12.365
CHEP	119.79	30	35.938	5.570	2.406
UIHEP	1246.51	25&30	314.459	50.313	50.283
Total	1967.77		530.839	83.852	79.610

- (vii) The Commission has analysed claim of Return of Equity by OHPC in the tariff petition for FY 2022-23. The OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 provides that the Return on Equity shall be computed at the base rate of 14% for all generating stations. However, the Regulation further provides that the RoE in case of OHPC stations shall be as per provisions of the PPA. The Commission scrutinised the PPA of the OHPC plants and it is found that for old plants the Return on Equity is 15.5% and for UIHEP the RoE is 16%. Accordingly, the RoE calculation has been carried out on such percentage of RoE which is shown in the following table:

Table - 33
Return on Equity for FY 2022-23

(Rs. in Cr.)

Sl. No.	Name of the Power Stations	Total Additional Capitalisation from 01.04.1996 to 31.03.2021	Equity Capital rate	Equity Capital	ROE for the FY 2022-23
	(1)	(2)	(3)	(4)	(5)
1	RHEP	63.30	30%	18.990	2.944
2	UKHEP	27.83	30%	8.350	1.294
3	BHEP	226.46	30%	67.938	10.530
4	HHEP	283.88	30%	85.163	13.200
5	CHEP	119.79	30%	35.938	5.570
6	UIHEP*	1246.51	25% & 30%*	314.459	50.313
7	Total	1967.77		530.839	83.852

(viii) The Commission approves return on equity for all stations of OHPC amounting to Rs.83.852 Cr. for the FY 2022-23.

(d) O&M Expenses

(i) OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 at clause no. 25 stipulates the following under the head Operation and Maintenance Expenses for hydro generating stations as follows:

“In case of the hydro generating stations declared under commercial operation on or after 01.04.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for the subsequent years.”

“O&M norms for the existing plants of OPGC(UNIT-I & UNIT-II) & OHPC will be determined by the commission from time to time.”

(ii) In the ARR calculation for different power stations of OHPC for the FY 2022-23, the O&M expenses has been escalated @ 5.72% over the approved O&M expenses for previous year (i.e. 2021-22). OHPC has also deducted Rs. 10.12 Crs from the escalated O&M expenses of UIHEP for FY 2022-23. The following table summarizes such O & M Expenses as proposed by the OHPC.

Table-34
Statement of O & M Expenses for different power stations of OHPC for FY 2022-23

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2021-22 Approved by OERC.	56.23	57.68	50.37	60.63	29.16	254.07	92.48	29.27	375.82
2	O & M expenses for FY 2022-23 with escalation @ 5.72% over FY 2021-22	59.45	60.98	53.25	64.10	30.83	268.60	97.77	30.94	397.32
3	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	3.82	4.88	7.78	4.20	1.10	21.79	9.16	30.94	
4	Total O & M Expenses for the FY 2022-23	63.26	65.86	61.035	68.303	31.927	290.39	106.93		397.32
Less: Amount Received from DoWR.										
5	Less : Income to be received from DOWR towards dam maintenance of UIHEP							(-) 10.12		(-) 10.12
6	Total O&M Expenses for the FY 2022-23	63.262	65.863	61.035	68.303	31.927	290.39	96.803		387.193

(iii) The Commission analysed the O&M expense approved and actuals as per audited accounts for FY 2019-20 & 2020-21 and found that the O&M expenses as per accounts is less as compared to the approved amount in the ARR. The

Commission now considers the O & M expenses by escalating the average actual amount reflected in the accounts for FY 2019-20 & 2020-21 by 5.72% for FY 2021-22 & FY 2022-23 and factoring the same with amount received from DoWR. Therefore, the Commission now after prudent check approves an amount of Rs.337.92 Cr. as O & M expenses for the year 2022-23 which is depicted in the following table. The corresponding approval figure for the FY 2021-22 was Rs.365.749 cr.

Table-35
Approval of O & M Expenses for different power stations of OHPC for FY 2022-23
(Rs. Crs.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2021-22 approved by OERC	56.23	57.68	50.37	60.63	29.16	254.07	92.48	29.27	375.82
2	O&M expenses For FY 2019-20 as per Audited Accounts	62.67	42.98	38.35	40.61	19.38	203.99	67.52	29.80	301.31
3	O&M expenses For FY 2020-21 as per Audited Accounts	50.66	42.45	42.79	49.69	22.11	207.70	68.72	45.08	321.50
4	Average of O&M expenses (2019-20 & 2020-21)	56.67	42.72	40.57	45.15	20.75	205.85	68.12	37.44	311.41
5	Escalation @5.72% for FY 2021-22	59.91	45.16	42.89	47.73	21.93	217.62	72.02	39.58	329.22
6	Escalation @5.72% for FY2022-23	63.33	47.74	45.34	50.46	23.19	230.07	76.14	41.85	348.05
7	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	5.16	6.60	10.53	5.69	1.49	29.46	12.38		41.85
8	Total O & M Expenses for the FY 2022-23	68.49	54.35	55.87	56.15	24.67	259.53	88.52		348.05
9	Less Amount to be received from DoWR towards Dam Maintenance Sharing of UIHEP for FY 2020-21							-10.12		(10.12)
10	Total O&M Expenses for the FY 2022-23	68.49	54.35	55.87	56.15	24.67	259.53	78.39		337.92

CO: Corporate Office

(e) **Interest on Working Capital**

- (i) OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 at clause no. 24(4) stipulates the following under the head Interest on working capital for hydro generating stations as follows:

“Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken loan for working capital from any outside agency.”

- (ii) OHPC in its ARR petition for the FY2022-23 has computed Interest on Working Capital of different power stations as per the previous approval of the Commission. Further the Regulation at Clause No. 24(3) stipulates the following regarding rate of interest on working capital for OHPC

“Rate of interest on working capital shall be on normative basis and shall be equal to the Bank Rate as on 01.04.2020 or on 1st April of the year in which the generating station or a unit thereof, is declared under commercial operation, whichever is later.”

Provided that in case of truing up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2020-24.

- (iii) Regulation at clause No. 3(1)(h) stipulates the following regarding the bank rate:

“Bank Rate means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 300 basis points.”

- (iv) The MCLR as on 1st April 2021 of SBI for one year was 7.0%. OHPC has considered such MCLR rate of SBI as on 01.04.2021 plus 300 basis point for computation of Interest on working capital.

- (v) Interest on working Capital of different power stations as submitted by OHPC for the FY 2022-23 is indicated in the following table:

Table- 36
Interest on Working Capital for FY 2022-23

(Rs. in Crs.)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost for 45 days	9.06	9.06	10.25	11.78	5.95	46.10	24.15	70.25
2	Maintenance spares @ 15% of O&M expenses	9.49	9.88	9.16	10.25	4.79	43.56	14.52	58.08
3	O&M expenses for one month	5.27	5.49	5.09	5.69	2.66	24.20	8.07	32.27
4	Total working	23.82	24.43	24.50	27.71	13.40	113.86	46.74	160.60

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
	capital								
5	Interest on working capital calculated @ 10.0%	2.382	2.443	2.450	2.771	1.340	11.386	4.674	16.060

(vi) The commission analysed the submission the OHPC in respect of interest on working capital. The OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 provides that the working capital for hydro generating stations shall cover receivables equivalent to 45 days of fixed cost, maintenance spares @ 15% of O&M expenses and O&M expenses for one month including security expenses. The rate of interest on working capital shall be on normative basis and shall be equal to the bank rate as on 01.04.2021. The Commission has taken into consideration MCLR of SBI for 01.04.2021 (7%)+300 basis point for the calculation of interest on working capital for FY 2022-23. The Commission accordingly has arrived at the interest on working capital taking the provisions of the Regulation which is given in the following table.

Table -37
Interest on Working Capital for the FY 2022-23

(Rs. in Crs.)

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivable equivalent to 45 days of Annual Fixed Cost	9.68	7.60	9.60	10.19	5.04	42.10	20.45	62.553
2	Maintenance spares @15% of O & M Expenses	10.27	8.15	8.38	8.42	3.70	38.93	11.76	50.689
3	O & M Expenses for One Month	5.71	4.53	4.66	4.68	2.06	21.63	6.53	28.160
4	Total Working Capital	25.66	20.28	22.64	23.29	10.80	102.66	38.74	141.402
5	Interest on Working Capital calculated @ 10.0%	2.566	2.028	2.264	2.329	1.080	10.266	3.874	14.140

(vii) The Commission approves an amount of Rs.14.140 Cr. as interest on working capital for the year 2022-23 against proposed submission of 16.06 Cr by OHPC.

(f) Non Tariff Income

(i) The OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 has stipulated as follows regarding Non- Tariff Income:

NON-TARIFF INCOME

(1) *The amount of Non-Tariff Income of the Generating Company as approved by the Commission in accordance with Regulation 41 shall be deducted while determining its Annual Fixed Charge:*

Provided that the Generating Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission.

(2) *The Non-Tariff Income shall include: (a) Income from rent of land or buildings; (b) Income from sale of scrap; (c) Income from investments; (d) Income from sale of ash/rejected coal; (e) Interest income on advances to suppliers/contractors; (f) Net Income from supply of electricity by the Generating Company to the housing colonies of its operating staff and supply of electricity by the Generating Company for construction works at the generating Station, after adjusting the expenses incurred for supply of such electricity; (g) Income from rental from staff quarters; (h) Income from rental from contractors; (i) Income from hire charges from contractors and others; (j) Income from advertisements; (k) Income from sale of tender documents; (l) Any other Non-Tariff Income.*

(ii) The Commission scrutinized the Non tariff income earned by the OHPC as shown in the audited accounts for FY 2020-21 as per Regulation 41 of the Terms & Conditions for determination of Generation Tariff) Regulation, 2020 . It was revealed from the audited accounts that OHPC has shown under the head rent of buildings, sale of scrap and advertisements an amount of Rs 4.80 Crs. as per Regulation 41 the non tariff net income from the above three heads shall be shared between the beneficiaries and the generating company, in the ratio 50:50 .

Table -38

Deductible Non-Tariff Income of different Power Stations of OHPC for FY 2022-23

(Rs. in Crs.)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
1	Rent of land & buildings	0.054	0.064	0.096	0.220	0.025	0.082	0.541
2	Sale of scrap	0.194	0.006	0.351	3.711	-	-	4.262
3	Advertisement	-	-	-	-	-	-	-
4	Total deductible Non- Tariff Income	0.248	0.070	0.447	3.930	0.025	0.082	4.803
5	50% of total deductible Non-Tariff Income to be considered in ARR	0.124	0.035	0.224	1.969	0.006	0.041	2.402

(iii) The Commission in the present tariff petition has taken consideration of Rs.2.402 Crs. as non tariff income while arriving at the Annual Fixed Cost.

(g) Sale of power to CSPDCL:

After hearing the objections from objectors to deduct the revenue from sale of 5 MW power/16.644 MU to CSPDCL from HHEP of OHPC Ltd. the Commission has analysed the impact of sale on power from HHEP. The Commission observed that the revenue likely to be earned from sale of 5 MW of power to CSPDCL is around Rs. 3.04 crs and the overall impact on the average tariff of OHPC for all hydro stations of OHPC is 00.28 (P/U). Therefore, Commission in this ARR calculation has deducted 16.644 MU of power from saleable energy of HHEP and revenue of Rs 3.04 cr. from ARR of HHEP to arrive at the average tariff of OHPC stations.

61. Total Annual Fixed Cost

- (i) Based on the above parameters, the power station wise ARR and tariff of OHPC have been calculated for the FY 2022-23. The values of ARR along with its different components and the average tariff computed considering the total Saleable Design Energy of 5619.24MU for the FY 2022-23 is shown in the following table.

Table - 39
Station wise ARR and Tariff for the FY 2022-23 considering saleable D.E. of 5602.60 MU

Components	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total FY2022-23 (Approved)	Approved for 2021-22
Saleable Design Energy (MU)	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.60	5619.24
Return on Equity	2.944	1.294	10.530	13.200	5.570	33.539	50.313	83.852	79.610
Interest on Loan	0.582	0.334	0.374	1.922	4.182	7.395	1.043	8.438	4.968
Depreciation	3.966	3.486	8.773	8.869	5.271	30.365	32.035	62.400	60.201
O & M expenses	68.493	54.346	55.870	56.149	24.672	259.529	78.395	337.924	365.749
Interest on Working Capital	2.566	2.028	2.264	2.329	1.080	10.266	3.874	14.140	16.155
Total Cost	78.550	61.488	77.811	82.469	40.774	341.093	165.662	506.755	526.682
Less Non Tariff Income	0.124	0.035	0.224	1.966	0.013	2.361	0.041	2.402	25.000
Less Sale of power to CSPDCL				3.04		3.04		3.04	
Total ARR for FY2022-23	78.43	61.45	77.59	77.46	40.76	335.69	165.62	501.31	501.68
Average Tariff (P/U) for 2022-23	150.89	74.61	66.25	117.28	84.03	91.71	85.27	89.48	89.28
Average Tariff approved 2021-22 (P/U)	128.10	80.91	64.89	126.29	74.02	89.93	88.06	89.28	

- (ii) The Commission in light of the above calculations approves total ARR of Rs.501.31 crs. at an average price of 89.48 p/u as against proposed ARR of Rs.567.328 cr. @ 100.96 p/u.

62. Reimbursements for FY 2022-23

(a) ARR & Tariff Application Fees and related Publication Expenses

- (i) OHPC stated that the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 under the head Application and Publication Expenses has stipulated the following:

“The application filing fee and the expenses incurred on publication of notices in the application for approval of Tariff, may in discretion of the Commission, be allowed to be recovered by the generating company, directly from the beneficiaries.”

- (ii) As per the Commission’s Notification No. 1992 on Dt. 31.08.2009 in the Clause No. 17, the fee has been fixed of Rs. 5, 000/- per MW as application fee for determination of tariff of conventional fuel based plant/Hydel Plants, subject to maximum limit of Rs. 25, 00, 000/- (Rupees Twenty Five Lakhs Only). In consideration of the above order, OHPC has to deposit application fee of Rs. 25 Lakhs for the FY2022-23.OHPC has thus submitted to allow it to be recovered the same amount from GRIDCO.
- (iii) OHPC further stated that out of expenditure of Rs.1.93415 Lakhs towards publication expense during Tariff approval of OHPC for the FY2021-22 the approval for the same was Rs.1.50 Lakhs. The difference of Rs 0.4315Lakhs may be allowed in the present tariff.
- (iv) OHPC in the ARR petition has proposed Rs.2.0 Lakhs as reimbursement towards publication expenses for FY2022-23. Therefore the total approval of Rs 27.434 Lakhs may be allowed to be reimbursed from GRIDCO the details of which are given in the following table.

**Table – 40
Application Fee & Publication Expenses**

(Rs. in Lakhs)		
Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2022-23	25.00
2	Publication expenses for FY2022-23	2.00
3	Differential Publication Expense of FY2020-21	0.434
	Total	27.434

(v) In view of the above, OHPC has claimed Rs.27.434 lakhs towards the Application Fee & Publication Expenses. Objector GRIDCO pointed out that there has been increase in the application fee and publication expenses. On the basis of the justification given by the OHPC and after scrutiny, the Commission approves Rs.27.434 lakhs as reimbursement towards application fee and publication expenses as pass through in the ARR of GRIDCO for FY 2022-23.

(b) Reimbursement of Electricity Duty on Auxiliary consumption for the FY 2022-23.

(i) As per the agreed PPA, the taxes and duties including ED on auxiliary consumption etc payable by OHPC to the State Government and other statutory bodies shall be passed on to GRIDCO in the shape of supplementary bill raised by OHPC. GRIDCO will make payment accordingly within 30 days of receipt of bills.

The State Govt in the Dept. of Energy has revised the rate of ED vide notification No.912 dated the 12.05.2017. Accordingly, the Rate of Electricity Duty / Unit has been revised from 30 paise per Unit to 55 paise per Unit with effect from 12th May 2017 as per the Gazette Notification No. 912 dtd. 12.05.2017. Accordingly OHPC has computed ED @55paise per Unit for all power stations for FY 2021-22 as reimbursement.

**Table - 41
ED for OHPC Power station for FY 2022-23**

Power Stations	Design Energy (in MU)	Proposed Percentage of Auxiliary Energy Consumption (in %)	Auxiliary Energy Consumption to be approved (in MU)	ED Rate Applicable (in Rs/Unit)	ED proposed for Reimbursement by OHPC @55p/u & AUX @1% (in Crs)
RHEP	525	1	5.25	0.55	0.289
UKHEP	832	1	8.32	0.55	0.458
BHEP	1183	1	11.83	0.55	0.651
HHEP	684	1	6.84	0.55	0.376
CHEP	490	1	4.90	0.55	0.270
UIHEP	1962	1	19.62	0.55	1.079
Total	5676	1	56.76	0.55	3.122

(ii) OHPC has thus submitted to approve reimbursement of ED amounting to Rs3.122Cr for the FY 2022-23 from GRIDCO in the ARR.

(iii) The Commission considered the above proposal of OHPC and provisionally approves an amount of Rs.3.122 cr. mentioned in the table above to be reimbursed from GRIDCO in the FY 2022-23.

(c) License fee for use of water for generation of Electricity:

(i) OHPC submitted that as per the Revenue & Disaster Management Department amended Odisha Irrigation (Amendment) Rule, 2016 published in Odisha Gazette on 27.09.2016 the license fee for drawl or allocation of water was enhanced @10% per annum w.e.f. 1st day of April. Accordingly the water cess paid by OHPC at the notified rates was reimbursed from GRIDCO. OHPC will pay Licence Fee @ 1.6 paise/ unit on water used for generation of electricity for FY 2022-23 which is projected in the following table.

**Table - 42
Licence Fee on water used for generation of electricity for OHPC Power station for FY 2022-23**

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @Rs 0.016/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.840	OHPC will claim reimbursement @Rs 0.016/Kwh on actual generation of each Power Station.
UKHEP	832	1.331	
BHEP	1183	1.893	
HHEP	684	1.094	
CHEP	490	0.784	
UIHEP	1962	3.139	
Total	5676	9.082	

(ii) The Commission considered the above proposal of OHPC and provisionally approves an amount of Rs.9.082 cr. mentioned in the table above to be reimbursed from GRIDCO in the FY 2022-23 based on the design energy of OHPC power stations @1.6 p/KWh.

(d) SLDC Charges

(i) OHPC submitted that as per OERC (Fees & Charges of State Load Dispatch Centre and Other Related Matters) Regulations, 2010 SLDC has to levy and collect annual charges from the users towards System Operation Charges (SOC) and Market Operation Charges (MOC). The Commission had provisionally approved Rs 1.25 Crs to be reimbursed from GRIDCO by OHPC towards payment of SLDC fees & charges for the FY 2021-22 considering 1708 MW as

average available capacity of OHPC power stations for the FY 2021-22, which is to be collected by SLDC from OHPC on monthly basis and OHPC has to reimburse the same to GRIDCO.

- (ii) OHPC stated that since it has not received the ARR, Fees & charges of SLDC for the FY 2022-23, the previous year approved charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable for FY 2022-23. Accordingly, Rs.1.3215 Crs. has been proposed as fees & charges of SLDC payable by OHPC based on the average available Capacity of 1679 MW of OHPC Power Stations for the FY 2022-23 considering the shutdown of different generating units on account of Renovation & Modernization & other planned maintenance.
- (iii) The Commission in light of such submission and calculations provisionally approves Rs.1.47 Cr to be reimbursed from GRIDCO by OHPC towards payment of SLDC fees & charges for the FY 2022-23 considering 1679 MW as average available Capacity of OHPC power Stations for the FY 2022-23.
- (e) **Reimbursement of contribution made to ERPC**
 - (i) OHPC submitted that it is contributing towards ERPC establishment fund & ERPC fund from the FY 2006-07 onwards as per their demand note. Annually OHPC is paying Rs.15 Lakhs towards contribution to ERPC Establishment Fund & Rs. 1 Lakh towards contribution to ERPC Fund. Expecting the above claim of ERPC, OHPC has proposed Rs.16.0 Lakhs as a pass through in the tariff for FY 2022-23 to be reimbursed from GRIDCO. Any excess claim (above Rs.16.0 Lakhs) made by ERPC for the FY 2022-23 will be claimed as additional reimbursement in the subsequent Tariff year.
 - (ii) The Commission approves a total reimbursement claim for an amount of Rs.16 lakhs for payment to ERPC contribution for FY 2022-23 from GRIDCO.
- (f) **Reimbursement of differential amount of MHEP Energy Bill to be reimbursed from GRIDCO**
 - (i) OHPC stated that after payment of Rs.27.42 crs on 21.12.2020 to APGENCO, Govt of Odisha / OHPC acquired 50% legitimate share of MHEP Joint Scheme as per the Clause No.3 of the Agreement, and is eligible to draw 50% of shareable power / energy generated $[(\text{Gross generation minus AUX})/2]$ on real

time basis from MHEP in line with the provisions made under Clause No.13. Accordingly 50% share of the cost of Operation and Maintenance charges as may be required / actually incurred for the project every year is to be paid. OHPC shall raise monthly energy bills to GRIDCO for the Odisha share of energy available from MHEP including the power drawn through the distribution network connected to MHEP as per the Clause No. 18 of the new Agreement.

- (ii) In this connection it is pertinent to mention that the Commission had approved the Tariff of MHEP (Jt.) Scheme for the FY2021-22 by escalating the 30% audited O&M Expenditure for the FY2018-19. But the New Machhakund agreement became effective from 21.12.2020 (i.e. the Date of payment of Rs27.42Cr to acquire 20% of the Machhakund share) and OHPC has to pay 50% of O&M Expense share to APGENCO as per Clause-3 & 13 of the Agreement.
- (iii) OHPC had paid Rs.4.04 Crs more than its approved Tariff of MHEP (Jt.) for the FY2021-22 as OHPC has to pay O&M share @50% from 21.12.2020 onwards. The differential amount paid by OHPC is calculated as follows:

Table - 43
Differential Amount of MHEP Energy Bill to be reimbursed from GRIDCO in the ARR of OHPC for FY2022-23

		(Rs in Crs)
1	Final Cost of power bill of MHEP(Jt.) for the FY2020-21 (from 01.04.2020 to 20.12.2021)	0.61
2	Odisha share of O&M Bill for FY2020-21 (Share of OHPC as per Maximum demand Ratio from 01.04.2020 to 20.12.2021 & 50% of O&M from 21.12.2021 to 31.03.2021)	19.17
3	Share of OHPC for construction of Hostel Blocks 24Units of E-Type & 24 Units of F-type quarters for FY2020-21	0.69
4	Total Bill raised by APGENCO for FY2021-22 (1+2+3)	20.47
5	Approved ARR of MHEP(Jt.) for FY2020-21	16.43
6	Differential Amount to be reimbursed from GRIDCO in the ARR of OHPC for FY2022-23	4.039

- (iv) The Commission after analysis approves a total differential amount of MHEP energy bill to be reimbursed from GRIDCO for an amount of Rs. 4.04 cr. for FY 2022-23.

(g) **Reimbursement of working capital of MHEP**

- (i) OHPC in its additional submission claimed towards advance working capital for operation of Machhakund Hyrdo Electric Joint Project to APGENCO, which was apprised during the hearing by OHPC to the Commission & objectors. OHPC stated that New Machhakund Agreement 2020 (as per Clause -16) has the provision for deposit of advance working capital for the ensuing year towards operation of the project. OHPC stated as per the Clause -16 of the new agreement, APGENCO, being the 1st party vide letter No.409 dated 18.11.2021 has claimed an interest free working capital of Rs.7.74 Crs. from OHPC/GRIDCO based on the previous year audited O&M expense of MHEP for the FY 2020-21. Accordingly OHPC vide letter No. 704 dated 31.01.2022 have requested GRIDCO to release advance working capital of Rs.7.74 Crs. to OHPC in order to make necessary payment to APGENCO.
- (ii) The Commission after analysis approves an amount of Rs.7.74 crs towards reimbursement of working capital of MHEP scheme from GRIDCO for FY 2022-23.

(h) **Income Tax**

- (i) OHPC submitted that the OERC (Terms & Conditions for determination of Generation Tariff) Regulations, 2020 at Clause No. 21 under the head Tax on Income stipulates the following:

“Income tax of the Generating Company shall be recovered from the beneficiaries. This will exclude income tax on other income streams (income from non-generation and non-transmission business.”

Income Tax paid by OHPC for the FY2020-21 is detailed below:

Table-44

Particulars	Amount of TAX Paid (Rs in Crs.)
Total Income Tax paid by OHPC during FY2020-21	57.7148
Less: Income tax on noncore business (Income tax @25.168% on FD interest of Rs 80.7005Crs)	20.3107
Less: Income tax on deductible non-tariff income (Income Tax @25.168% on Rs4.8032Crs).	1.2089
Less: Income from others (Income Tax @25.168% on Rs 4.00Crs).	1.0067
Income Tax on core income to be reimbursed from GRIDCO	35.1885

- (ii) The Commission has examined the Audited Accounts of OHPC for FY 2020-21. It is revealed from the audited balance sheet that out of total profit before tax (PBIT) of Rs.201.44 Crs., interest of Rs.80.70 Crs. has been earned on fixed deposits, interest of Rs.4.00 Crs. has been earned from other income and non-tariff income of Rs.4.8032 Crs. (non-core activities). Applying the applicable tax rate (of 25.168%) on this amount the tax amount comes to Rs.22.5263 crs. on non-core activities. Thus after excluding Rs.22.5263 cr. from the total income tax of Rs.57.7148 Crs. paid during FY 2020-21, the balance of Rs.35.1885 Crs. is the tax on core business. Therefore, the Commission approves Rs.35.1885 Crs. towards income tax as reimbursement claim from GRIDCO for FY 2022-23 based on the audited accounts of FY 2020-21.

The details of reimbursement claim from GRIDCO towards ED on auxiliary consumption, license fee for use of water for generation of electricity, SLDC charges, Application fee and publication expenses, ERPC Charges and Income Tax on Core business which are to be reimbursed from GRIDCO for FY 2022-23 by OHPC are summarized in the table below:

Table –45
Details of Reimbursement for FY 2022-23 **(Rs. Cr.)**

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(a) License fee for use of water for generation of electricity for FY 2022-23.	0.840	1.331	1.893	1.094	0.784	3.139	9.082
(b) ED on Auxiliary Energy Consumption for FY2022-23.	0.289	0.458	0.651	0.376	0.270	1.079	3.122
(c) SLDC charges for FY 2022-23.							1.47
(d) Application fees and publication expenses for FY2022-23							0.270
(e) Differential publication expenses for FY2021-22							0.004
(f) ERPC charges for FY2022-23							0.16
(g) Differential ARR of MHEP for FY2020-21(due to							4.039

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
rise in O&M expense from 30% to 50% share due to New Agreement)							
(h) Income Tax as per Audited Account of FY 2019-20							35.189
(h)Working capital equal to 15% of O&M budget of FY 2020-21 for MHEP							7.74
Total							61.076

In light of the above, the Commission approves the total reimbursement of Rs.61.076 Crs. The above expenditure is to be included in GRIDCO's ARR and hence shown as revenue requirement in OHPC for FY 2022-23.

63. Two-Part Tariff

- (a) As per Clause No. 28 of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020, the annual fixed cost of a power station shall be recovered on monthly basis under Capacity Charge (inclusive of incentives) and Energy Charge to be shared on 50:50 basis. Further as per Clause No. 28(11) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020.

“The computation and payment of capacity charge and energy charge for existing plants of OHPC will be as determined by the Commission from time to time.”

- (b) Accordingly, the Annual Capacity Charges (ACC), Annual Energy Charges (AEC) and Energy Charge Rate (ECR) of different power stations of OHPC for the FY 2022-23 is shown in the following table:

Table- 46
Capacity Charge and Energy Charge of OHPC Power Stations for the FY2022-23

Name of the Power Stations	Annual Fixed Cost	Capacity Charges (Rs in Crs.)	Energy Charges (Rs in Crs.)	Saleable Design Energy (in MU)	Energy Charge Rate(P/U)
RHEP, Rengali	78.43	39.21	39.21	519.75	75.45
UKHEP, Baraniput	61.45	30.73	30.73	823.68	37.30
BHEP, Balimela	77.59	38.79	38.79	1171.17	33.12
HHEP, Burla	77.46	38.73	38.73	660.52	58.64
CHEP, Chiplima	40.76	20.38	20.38	485.10	42.01
UIHEP, Mukhiguda	165.62	82.81	82.81	1942.38	42.63

- (c) The recovery of capacity charge and energy charge for a calendar month shall be as per the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. Again the full recovery of capacity charge shall be dependent on the NAPAF of the power station. The Commission vide its order in Case No.52 of 2019 has fixed the NAPAF of different power stations of OHPC for the control period, 2019-20 to 2023-24. The NAPAF of different power stations of OHPC for the FY 2022-23 for computation of Capacity Charges shall be considered as mentioned in the Table below:

Table-47

Power Stations	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP
NAPAF (%)	80	87	87	75	75	88

64. Tariff for CSPDCL on drawal of power from HHEP, Burla

- (a) OHPC has stated that as per Agreement, the erstwhile Chhattisgarh State Electricity Board (CSEB), presently Chhattisgarh State Power Distribution Company Limited (CSPDCL) has 5 MW share from Hirakud generation. The CSPDCL has been pleading since FY 2006-07 to pay the energy charges at the tariff approved by the OERC for HHEP, Burla, as applicable for the consumers of Odisha, considering the supportive measures extended by the Govt. of Odisha.
- (b) Finally in a meeting at Raipur between OHPC & CSPDCL on 28.10.2014, it was decided that a PPA shall be executed between OHPC & CSPDCL for purchase of 5 MW power from Hirakud Hydro Electric Proj5ect, Burla. It was also decided that from 2008-09 onwards CSPDCL shall pay at a rate as approved by OERC provisionally till the rate is approved by appropriate Commission and afterwards necessary adjustment shall be done in accordance to law.
- (c) Accordingly as per the request of OHPC the Commission has provisionally fixed the ECR for billing to CSPDCL for the FY 2015-16 to FY 2021-22. OHPC stated that it is in the process of truing up of the expenditure for its power stations. Considering the approved up-valued project cost of HHEP after truing-up, OHPC shall compute the ECR for billing to CSPDCL from the FY 2006-07 onwards, and file an application before the Commission for approval of the same. However for the ensuing year FY 2022-23 OHPC has computed the tariff

for billing of Energy to CSPDCL as per the CERC (Terms and Conditions of Tariff) Regulation, 2019 as furnished in the Table below.

Table- 48
Tariff for CSPDCL for 2022-23

Details of Expenses HHEP	Amount
Salable Design Energy of HHEP (in MU)	677.16 MU
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2021 - Decapitalization)	402.52Cr
Return on Equity	26.63
Interest on Loan	4.84
Depreciation (@ 5.28%)	21.253
O & M expenses (Escalated @ 4.77%)	67.69
Interest on Working Capital (@ 10.0%)	3.24
Total ARR	123.65
Average Tariff (p/u)	182.598

- (d) The Commission after considering the same approves the average tariff of **182.598** p/u for HHEP for billing to CSPDCL for FY 2022-23 as against 180.003 p/u approved during FY 2021-22. The Commission has considered the impact of sale of power to CSPDCL from HHEP as 5 MW/16.644 MU as deliberated earlier.

65. Annual Revenue Requirement and Tariff for Machhakund H.E. (Jt.) Scheme

- (a) OHPC in the ARR application has stated that Machhakund HE Project (a joint project schemes between Andhra Pradesh and Odisha Government) is almost 60 years old and it has been proposed to go for R&M of all the six units in phases and up-gradation wherever possible taking into account of the existing water conductor system. As per the original Inter-State Agreement signed between the two States in the year 1945, Government of Andhra Pradesh (GoAP) and Government of Odisha have share of 70% and 30% share respectively from Machhakund Hydro Electric Project (MHEP) and as per the inter-state supplementary agreement signed between both the Governments in the year 1978, Government of Odisha has an option of to draw additional 20% power at a cost of Rs. 0.08 per KWh.
- (b) A new inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO on 23rd October 2020. As per the provisions of this agreement for acquiring additional 20% share of the Joint Scheme, Govt. of Odisha / OHPC shall make payment of Rs.27.42 Crs to Govt. of AP/APGENCO considering 20% of the present depreciated cost of the

project and share the expenditure on account of RM & U works for all the generating units along with auxiliaries and switchyard system in the ratio of 50:50.

- (c) As per the terms of the new Agreement, it is agreed at Clause No. 7 that; *“The Original Agreement dated 14.01.1945 with modifications shall continue to be applicable together with this agreement upon its execution. The agreement dated 15.12.1978 shall stand superseded and become unenforceable.”* Accordingly, the billing by APGENCO to OHPC @ 8 paise/unit for the energy drawal by Odisha beyond 30% upto 50% shall be discontinued along with the computation of share of annual audited O&M expenditure of MHEP between the two States basing on the maximum demand in MW during the year.
- (d) Now as per the agreement dated 23-10- 2020, after payment of Rs.27.42 crs, Govt of Odisha / OHPC shall have 50% legitimate share of MHEP Joint Scheme and shall draw 50% of shareable power on real time basis and make payment of 50% share of the cost of O&M charges as may be required / actually incurred for the project every year. OHPC shall raise monthly energy bills to GRIDCO for the Odisha share of energy available from MHEP including the power drawn through the distribution network connected to MHEP.
- (e) OHPC has stated that MHEP(Jt.) scheme being a fully depreciated project, and presently in absence of any tariff mechanism for recovery of the investments, all capital as well as revenue expenditure of MHEP are considered under O & M expenditure and shared between the two States (Andhra Pradesh & Odisha) on annual basis. Accordingly the 50% share of the total audited O&M Expenses of Rs. 25.7866 Crs. for the FY 2020-21 has been escalated twice @ 5.72 % per year to arrive at Rs. 28.8201 Crs towards the share of Govt. of Odisha / OHPC for FY 2022-23 payable to State of Andhra Pradesh / APGENCO. The cost per unit is Rs 1.10903 considering drawal of 50% share of saleable design energy of Machhakund i.e. 259.875 MU.
- (f) The projected tariff calculation by OHPC for MHEP for the FY 2022-23 is given in the table below:

Table -49

Projected Tariff of Machhakund (Jt.) HEP for 2022-23	
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Design Energy of MHEP for Generation (MU)	525
Normative Auxiliary Energy Consumption (AUX) (%)	1%
Normative Auxiliary Energy Consumption (AUX) (MU)	5.25
Saleable Design Energy for sharing between Andhra Pradesh & Odisha(MU)	519.75
(50%) Saleable Design Energy Share of Odisha (MU)	259.875
Drawal of Total Share of Odisha Energy by GRIDCO (MU)	259.875
O&M Escalation factor @ 5.72 % for two years over the O&M Bill of MHEP for FY 2019-20.	1.1177
	(Rs. in Crs.)
1. Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2020-21	51.5732
2. 50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2020-21)	25.7866
3. O&M Expenditure for FY 2022-23 applying the escalation factor	28.8210
4. Total Expected Expenditure during the FY 2022-23	28.8210
5. Tariff (Paise/Kwh)	110.903
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs 1.109/kWh during the FY 2022-23 to make payment of O&M cost to APGENCO thereof as per the new Agreement subject to final reconciliation at the year end.	

(g) The Commission scrutinized the above proposal of OHPC. OHPC has considered energy drawl of 259.875 MU towards 50% Odisha share (after deducting 1% auxiliary consumption from 50% of the design energy of 525 MU). Therefore, the Commission approves a tariff of 110.903 paisa/KWh for drawl of 259.875 MU towards Odisha share for FY 2022-23. OHPC shall raise monthly bills accordingly on GRIDCO subject to year-end adjustment as per previous practice.

(h) The Commission hereby approves the ARR and generation tariff of OHPC except Machhakund for FY 2022-23 as follows:

Table – 50
Summary of ARR Approved for OHPC for 2022-23

	Year	RHEP, Rengali	UKHEP, Baraniput	BHEP, Balimela	HHEP, Burla	CHEP, Chiplima	OHPC Old Stations	UIHEP, Mukhiguda	OHPC Total
ARR (Rs Cr)	Approved FY 2021-22	66.58	66.65	75.99	85.52	35.91	330.65	171.04	501.68
	Proposed FY 2022-23	73.33	73.43	82.94	93.54	48.28	371.52	195.81	567.33
	Approved FY 2022-23	78.43	61.45	77.59	80.50	40.76	335.69	165.62	501.31
Saleable Design Energy (in MU)	Approved FY 2021-22	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
	Proposed FY 2022-23	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24

	Year	RHEP, Rengali	UKHEP, Baraniput	BHEP, Balimela	HHEP, Burla	CHEP, Chiplima	OHPC Old Stations	UIHEP, Mukhiguda	OHPC Total
	Approved FY 2022-23	519.75	823.68	1171.17	677.16	485.10	3660.22	1942.38	5602.60
Capacity Charges (Rs in Crs.)	Approved FY 2021-22	33.29	33.32	38.00	42.76	17.95	165.32	85.52	250.84
	Proposed FY 2022-23	36.67	36.71	41.47	46.77	24.14	185.76	97.90	283.67
	Approved FY 2022-23	39.21	30.73	38.79	38.73	20.38	167.85	82.81	250.66
Average Tariff (P/U)	Approved FY 2021-22	128.10	80.91	64.89	126.29	74.02	89.93	88.06	89.28
	Proposed FY 2022-23	141.10	89.14	70.82	138.13	99.53	101.04	100.81	100.96
	Approved FY 2022-23	150.89	74.61	66.25	117.28	84.03	91.71	85.27	89.48
Energy Charge Rate(P/U)	Approved FY 2021-22	64.05	40.46	32.44	63.15	37.01	44.96	44.03	50.03
	Proposed FY 2022-23	70.55	44.57	35.41	69.07	49.77	50.52	50.40	50.48
	Approved FY 2022-23	75.45	37.30	33.12	58.64	42.01	45.86	42.63	44.74

The unit cost of energy from Machhakund is approved at 110.903 p/u for FY 2022-23.

- (i) The tariff now approved shall be effective from **01.04.2022** and shall be in force until further orders.
- (j) The ARR has been approved in this order pertains to FY 2022-23 i.e. from 01.04.2022 to 31.03.2023.

66. Directives of the Commission

- (a) Odisha is not renewable rich state. In near future there is no substantial addition of generation from hydro/thermal source. At present the contribution of generation from thermal, hydro and RE sources are 64%, 28% and 8% respectively. There is need for proper generation planning to ensure adequacy of generation availability to meet power demand in upcoming years. OHPC along with OPGC may plan accordingly so that there would not be shortage of power to meet the demand of the State of Odisha. OHPC may take pro-active steps for capacity addition and plan accordingly in consultation with Government of Odisha and GRIDCO. Long term generation planning study should be carried out along with OPTCL for development of power evacuation system.
- (b) Considering the large scale penetration/ integration of RE sources, there is need for adequate balancing system in the form of Pumped Storage System (PSS) or

other Energy Storage System (ESS) including Battery Energy Storage System (BESS). Addition of large Hydro Electric Generation Plant including PSS is the need of hour. Accordingly, OHPC should plan and explore the feasibility of generation capacity addition without further delay which will not only provide the cleanest form of energy to balance the intermittency nature of RE generation but also would help in socio-economic development of people of the State of Odisha. Further, to meet the peak demand and base load during night time there would be requirement of coal based and hydro based plant until Round the Clock (RTC) supply is available through RE sources.

(c) OHPC is directed to provide details relating to following issues:

- Steps being taken for R&M of existing old hydro plant (other than uprating of Unit-1, 2, 5, 6 of HHEP enhancing installed capacity from 37.5 MW to 43.65 MW) based on Residual Life Assessment (RLA) study, which would add generation with minimum investment and without any environmental issues.
- Future plan for generation addition either in form of Run of the River (RoR) scheme/ pondage based scheme & PSS.
- Steps being taken to address the slit deposit problem in various power plants, which decrease the live storage capacity of the reservoir.
- Installation of early warning system to deal with cloud burst, flash floods, dam brake event etc. for large project as per CEA (Safety Requirement for Construction, Operation & Maintenance of Electric Plants & Electric Lines) Regulation as amended from time to time.
- Details of secondary energy fund and utilization of such fund.

67. The application of OHPC in Case No. 103/2021 for approval of its Annual Revenue Requirement and fixation of generation tariff of different stations for the FY 2022-23 is accordingly disposed of.

Sd/-

(S.K. Ray Mohapatra)
(Member)

Sd/-

(G. Mohapatra)
(Officiating Chairperson)