

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

**Present: Shri G. Mohapatra, Member
Shri S. K. Ray Mohapatra, Member**

Case No.74 of 2022

Date of Hearing : 13.02.2022 (at 11.00 AM)

Date of Order : 23.03.2022

IN THE MATTER OF: An application for approval of Aggregate Revenue Requirement (ARR) and Generation Tariff of OHPC Stations for the FY 2023-24 under Sections 61, 62, 64 & 86 of the Electricity Act, 2003 read with related provisions of the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and the 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 2023-24.

A. BACKGROUND HISTORY (Para 1 to 6)

1. The Odisha Hydro Power Corporation Ltd. (OHPC) is a ‘Generating Company’ under Part-I Section 2 (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 & delivery of the powers from the generating stations of OHPC to the Distribution system of 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 25.11.2022 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 2023-24. 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. On 18.01.2022, OHPC has filed its reply to the queries raised and communicated to OHPC by the Commission on 26.12.2022 based 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 with 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 R. P. Mahapatra, Retd. Chief Engineer & Member (Gen.) of erstwhile OSEB, Plot No-775 (P), Lane-3, JayadevVihar, Bhubaneswar-751013.
 - (b) Shri Soumya Ranjan Patnaik, S/o late Brajabandhu Patnaik, Hon'ble 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.
4. The date of hearing was fixed to 13.02.2023 at 11.00 AM through hybrid mode (physical at Commission's office and virtual) and was duly notified & widely circulated in the leading newspapers 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 hybrid mode and requested the applicant, the objectors and the Government's authorized representative(s), who want to participate virtually, to mail their e-mail ID and Whatsapp number at email ID: oerc.vc@gmail.com in advance for providing links for hearing. Accordingly, participants took part in the proceedings and offered their respective views/suggestions/proposals during the hearing 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, Mrs. Nivedita Mishra, Additional Secretary and 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 the issues raised by the various objectors.

5. In exercise of the power under Section 94(3) of the Electricity Act, 2003 with a view 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 2023-24. The Consumer Counsel presented their views on the matter during the hearing.
6. The Commission convened its meeting of the State Advisory Committee (SAC) meeting on 15.03.2022 at 11.00 A.M to discuss about the Aggregate Revenue Requirement (ARR) applications and generation tariff proposals of the generating companies for FY 2023-24. The Members of SAC presented their invaluable suggestions and views on the matter for consideration of the Commission.

B. ARR PROPOSAL OF OHPC FOR FY 2023-24 (Para 7 to 25)

7. Installed Generation Capacity

The present installed capacity of various Hydro Stations owned by Odisha Hydro Power Corporation (OHPC) is 2099.8 MW including 50% share of Odisha from Machkund Hydro Electric Project [i.e. 60 MW out of 120 MW (3x17 MW + 3x23 MW)] and the net MW addition of OHPC has increased by 36.3 MW.

8. Design Energy

- (i) The Design Energy (DE) of a Hydro Power Station is an important parameter for determination of Tariff. The Design Energy of OHPC's Power Stations and saleable energy approved for the FY 2022-23 and proposed for the FY 2022-23 is given in the table below:

Table - 1
Design energy of Hydro Power Stations of OHPC for the FY 2022-23 and the FY 2023-24
(in MU)

Sl. No.	Name of the Power Station	Design Energy approved for FY2022-23	Design Energy approved for FY 2022-23 (Considering Auxiliary consumption of 1%)	Design Energy proposed for FY 2023-24	Design Energy proposed for FY 2023-24 (Considering Auxiliary consumption of 1%)
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	660.52	684.00	660.52

5	CHEP	490.00	485.10	490.00	485.10
6	UIHEP	1962.00	1942.38	1962.00	1942.38
Sub Total of Old Power Stations		5676.00	5602.60	5676.00	5602.60
7	MHEP	262.50	259.875	262.50	259.875
Total		5938.50	5862.475	5938.50	5862.475

- (ii) OHPC submitted that during years of Hydrology failure OHPC sustains substantial loss in Revenue due to shortfall in the recovery of Energy Charges. In response to the OHPC's claim towards Hydrology Failure the Commission had observed the following in the Tariff Order of OHPC for FY 2014-15:

“The compensation claimed towards hydrology failure is not to be allowed in view of the Commission's earlier orders dt.10.06.2005 & dt.23.03.2006 wherein OHPC was directed to maintain a separate fund to deposit the revenue earnings out of sale of secondary energy which shall be utilized to replenish the shortfall in revenue due to lesser generation by OHPC in years of hydrology failure to provide necessary comfort to the consumers of the state. {Para 6.5(e) of Order dt.10.06.2005}.”

The gross actual generation achieved by different power stations of OHPC (except MHEP) for the last five years are given below:

Table - 2
Status of Secondary Fund Hydro Power Stations of OHPC as on 31.03.2022
(in MU)

Sl. No	Name of Power Station	Design Energy (DE)	Design Energy (DE) (2022-23) (Considering Auxiliary consumption of 1%)	Actual Gen. of 2017-18	Actual Gen. of 2018-19	Actual Gen. of 2019-20	Actual Gen. of 2020-21	Actual Gen. of 2021-22
1	RHEP	525.00	519.75	762.54	745.97	647.71	980.77	866.36
2	UKHEP	832.00	823.68	675.65	923.88	813.04	771.26	450.90
3	BHEP	1183.00	1171.17	1475.07	1677.63	1510.40	1594.30	1026.65
4	HHEP	684.00	677.16	614.07	380.69	502.25	597.39	714.26
5	CHEP	490.00	485.10	219.11	158.51	234.0	322.37	268.42
6	UIHEP	1962.00	1942.38	1740.82	2142.60	2234.19	1713.10	1155.19
Total		5676.00	5619.24	5487.26	6028.68	6004.23	5979.19	4481.78

9. Reservoir Level and Anticipated Generation for FY 2023-24

- (a) The Reservoir Level of OHPC Power Stations as on 15.11.21 vis-à-vis on 15.11.22 is given below:

Table - 3
Reservoir level of Hydro power stations of OHPC

Sl. No.	Reservoirs	As on 15.11.2021	As on 15.11.2022
1.	Rengali	122.33 mtr.	122.62 mtr.

Sl. No.	Reservoirs	As on 15.11.2021	As on 15.11.2022
2.	Kolab	851.76 mtr.	855.55 mtr.
3.	Balimela	1483.80 ft.	1482.80 ft.
4.	Hirakud	629.23 ft.	628.43 ft.
5.	Indravati	631.31 mtr.	637.94 mtr.

- (b) OHPC has submitted the actual generation of different Power Stations under OHPC from 01.04.2022 up to 15.11.2022. The anticipated generation up to 31.03.2023 for the FY 2022-23 has been estimated on the basis of the availability of water, irrigation requirement and peak load requirement of power in co-ordination with Department of Energy (DoE), Department of Water Resources (DoWR), GRIDCO and SLDC. The same is furnished below.

Table - 4
Actual /Anticipated Energy Generation of Hydro Power Stations of OHPC

Sl. No.	Name of the power stations	Actual generation from 01.04.22 up to 15.11.22 (in MU)	Anticipated generation from 16.11.22 to 31.03.23 based on DoWR & DoE Schedule (in MU)	Anticipated generation for the FY 2022-23 based on DoWR & DoE Schedule (in MU)
1.	RHEP	597.905	323.00	920.905
2.	UKHEP	289.359	235.00	524.359
3.	BHEP	782.3656	353.00	1135.365
4.	HHEP	796.415	105.00	901.415
5.	CHEP	258.334	83.00	341.334
6.	UIHEP	1034.069	441.00	1475.069
Total		3758.448	1540.00	5298.448

OHPC has 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 has submitted that the revalued 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 dtd. 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)] has 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 was determined on the historical cost of old power station of OHPC for Rs. 479.80 Cr as per the Notification No. 1068 Dtd. 29.01.2003 of DoE, GoO.
- (b) Further, the Commission had approved New Addition of Old Power Stations of OHPC from 01.04.1996 to 31.03.2021 as Rs 721.264 Cr and that of UIHEP as Rs 1251.419 Cr. So, total approved new addition upto FY 2020-21 was Rs1972.679Cr.

- (c) OHPC has submitted that they had incurred new addition of Rs 228.171Cr (Rs195.621Cr for old power stations & Rs 32.549 Cr for UIHEP, prepared as per IND AS-2015 audited accounts for FY 2021-22). Similarly, OHPC has proposed additional capitalization towards Capital work in Progress (estimated additional capital expenditure) for FY2022-23 amounting to Rs147.562 Cr & Capital work in Progress (estimated additional capital expenditure) for FY2023-24 amounting to Rs. 38.81Cr respectively for different power stations of OHPC.
- (d) OHPC submitted that the Commission had approved Rs24.468 Cr as decapitalization of the asset of different power stations of OHPC from FY 2011-12 to FY 2020-21. Considering the aggregate decapitalization on account of Unit-5 & 6 of HHEP, Burla and Unit-1&2 of BHEP, Balimela as Rs 9.430 Cr, the total decapitalization from FY2011-12 to FY 2021-22 shall be Rs 33.898Cr, out of which Rs 28.986Cr has been deducted from the Historic Cost for old power stations of OHPC and Rs 4.912 Cr has been deducted from the project cost of UIHEP.
- (e) Considering the total approved capitalization up to FY 2020-21 & audited expenditure for FY2021-22 on account of Additional Capitalization and estimated additional capital expenditure for FY2022-23 and FY2023-24, Decapitalization & PSDF grant as described above, the Project Cost considered by OHPC for Computation of Tariff for FY2023-24 are furnished in the Table below.

Table - 5
Project Cost for tariff calculation for FY 2023-24(in Rs. Cr.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2021-22	Less PSDF grant during FY2021-22	New additions proposed in Tariff calculation & New Addition of UIHEP excluding Original Project Cost FY 2023-24	Project Cost considered for Tariff calculation based on Historic Cost
1	2	3	4	5	6=2+5-3-4
RHEP	91.09	0.089	0.000	64.06	155.06
UKHEP	108.31	0.494	0.609	32.529	139.74
BHEP	115.42	7.214	1.169	348.679	455.72
HHEP	72.75	14.261	0.425	453.805	511.87
CHEP	92.23	6.928	0.011	158.911	244.20
Sub Total	479.80	28.986	2.214	1057.984	1506.59
UIHEP	1194.79 (approved project cost)	4.912	1.161	134.441	1323.16
Total	1674.59	33.898	3.375	1192.425	2829.75

Note: Project cost approved for UIHEP after CoD is Rs 1194.79.Cr

11. **Tariff for Energy Billing to CSPDCL:**

- (i) OHPC submitted that the erstwhile Chhattisgarh State Electricity Board (CSEB), presently Chhattisgarh State Power Distribution Company Limited (CSPDCL) drawing energy from Hirakud generation towards 5MW share of Chhattisgarh State (erstwhile share holder being Madhya Pradesh) is taking a plea since the FY 2006-07 to pay the energy charges at the tariff approved by the Commission for HHEP, Burla, applicable for the consumers of Odisha, considering the supportive measures extended by the Govt. of Odisha which is considerably less than the actual cost of generations from HHEP on which billing is made to them as per the Minutes of Meeting dtd. 24.12.2004.
- (ii) The Commission have provisionally fixed the ECR for billing to CSPDCL for the FY 2015-16 to FY 2022-23. For ensuing FY 2023-24, OHPC has computed the tariff for billing of Energy to CSPDCL as per the CERC (Terms and Conditions of Tariff) Regulation'2019 as furnished at Table below.

Table - 6
Tariff for CSPDCL for 2023-24

Details of Expenses HHEP	Amount (Rs in Crs)
Salable Design Energy of HHEP (in MU)	677.16
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2021 - Decapitalization)	569.45Cr
Return on Equity (@ 25.168%)	43.00
Interest on Loan	13.51
Depreciation (@ 5.28%)	30.07
O & M expenses (Escalated @ 4.77%)	58.83
Interest on Working Capital (@ 10.50%)	3.35
Total ARR	148.75
Average Tariff (p/u)	219.674

OHPC prayed to the Commission to approve the tariff for energy billing to CSPDCL @219.674 paisa/unit for the FY 2023-24.

12. **Determination of Annual Fixed Cost**

OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 specifies methodology for computation of tariff for supply of electricity from a hydro generating station. 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 capital
- c. Depreciation
- d. Operation and Maintenance expenses
- e. Interest on working capital
- f. Income Tax
- g. Less: Non-tariff Income

a. Return on equity (ROE):

- (i) OHPC has submitted that the Commission in the Tariff approval of OHPC for the FY2022-23 had approved the Return on Equity with following observations:

“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”

- (ii) Accordingly, OHPC has calculated RoE @15.5% for old power stations and @16% for UIHEP for the FY2022-23. Further, OHPC has considered 30% of additional capitalization (after reduction of asset due to decapitalization and PSDF grant) of old power stations as equity. Similarly, for UIHEP 25% of project cost (after deduction of decapitalization) and 30% of net additional capitalization are considered as equity. The details are provided below.

Table - 7

Computation of RoE for different power stations of OHPC for FY 2023-24 (in Rs. cr.)

Name of the Power Station	Capital Addition considered for RoE upto FY 2023-24 (in Rs Cr)	Share of Equity (%)	Value of Equity capital (in Rs Cr)	ROE @15.5% for old Power Station & @16% for UIHEP for 2023-24 (in Rs Cr)	RoE approved by OERC for 2022-23 (in Rs Crs)
1	2	3	4=2*3	5=15.5% or 16% of 4	6
RHEP	64.06	30	19.218	2.979	2.944
UKHEP	31.92	30	9.577	1.484	1.294
BHEP	347.51	30	104.254	16.159	10.530
HHEP	453.38	30	136.014	21.082	13.200
CHEP	158.90	30	47.671	7.389	5.570
UIHEP	1323.16	25&30	337.453	53.993	50.313
Total	2378.94		654.187	103.086	83.852

b. Interest on loan

- (i) The loan liabilities on OHPC consist of state Government loan, PFC loans and Normative Loans. The present status of UIHEP loan as submitted by OHPC is given below.

Table - 8

Present Status of UIHEP Govt. Loan based on the approvals of the Commission (Rs. Cr.)

Original Approved Project Cost	1195.42
Project cost after deducting the infirm power cost	1194.79
Equity @25%	298.70

Govt. Loan to UIHEP	497.86
Depreciation allowed from 2010-11 to 2022-23 @ Rs 30.23 Crore	392.99
Loan Repayment made till FY 2021 -22 & to be paid for FY2022-23	392.99
Balance Outstanding Loan as on 01.04.2023	104.87 Crore
Cumulative interest on UIHEP Govt. Loan from FY 2006-07 to FY 2022-23 @ 7%	413.64 Crore (Govt. proposed to consider as regulatory asset)
Cumulative interest on normative loan from FY 2001-02 to FY 2022-23 @ 7%	129.41 Crore (Not paid)

- (ii) OHPC has submitted that PFC loan of Rs319.49 Cr has already been repaid in full by FY 2009-10. OHPC has so far paid Rs 362.76 Cr to Govt. by March 2022. The depreciation approved for FY 2022-23 for Rs 30.23 Cr shall be paid by the end of FY 2022-23. OHPC submitted that the Commission in the para 66(a)(ii) of the Tariff Order of OHPC for FY2022-23 had made following observations:

“As regards the Normative Loan of Rs 78.74Crs 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) **Normative loan:** OHPC submitted that though, State Govt. loan (at interest rate of 9.8%) has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP is considered at interest rate of 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 at interest rate of 9.6 % for FY 2023-24 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered at interest rate of 8.75 % for the FY 2023-24 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 2021-22 is considered at interest rate of 7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms.
- (iv) Hence, 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 FY2023-24. 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. The details of interest on loan claimed by OHPC for FY 2023-24 is provided below.

Table - 9
Statement of Outstanding Loan & Interest thereon for the FY 2023-24

Sl. No.	Source of Loan	Loan O/S as on 01.04.2023	Interest on Loan for the FY 2023-24
1	State Govt. Loan of UIHEP (@7% : interest)	104.87	0.00
2	Normative Loan of Rs.78.74 Cr for UIHEP, Mukhiguda (@7% : interest)	78.74	0.00
3	Normative Loan for Add. Cap. FY2017-18 to FY 2021-22, CWIP for FY2022-23 & FY2023-24 excluding FY2020-21 of CHEP (@9.80% : interest)	28.28	2.61
4	Normative Loan for Add. Cap. FY2017-18 to FY 2021-22 & CWIP FY2022-23 for UKHEP (@9.80% : interest)	6.07	0.51
5	Normative Loan for Add. Cap. FY2017-18 to FY 2020-21 HHEP (@8.75%: interest)	17.75	1.14
6	Normative Loan for Add. Cap. FY2017-18 to FY2020-21 BHEP (@9.6%: interest)	3.13	0.23
7	Normative Loan for Add. Cap. FY 2017-18 to FY 2021-22 RHEP (@9.80%: interest)	3.04	0.25
8	Normative Loan for Add. Cap. FY 2017-18 to FY 2021-22; CWIP for FY2022-23 UIHEP(@ 7.0%: interest)	70.53	4.50
9	Normative Loan for R&M of Unit #2, Rengali (@ 9.80%: interest)	1.64	0.08
10	Normative Loan for R&M of Unit #3 & Add. Cap. For FY2020-21, CHEP, Chiplima (@ 9.80%: interest)	39.31	3.64
11	Normative Loan for R&M of Unit #5 & 6 and Add. Cap. For FY2021-22, Add Cap towards CWIP for FY2022-23 of HHEP, Burla (@ 8.75%: interest)	118.65	9.86
12	Normative Loan for R&M of Unit #1 & 2 and Add. Cap. For FY2021-22, Add Cap towards CWIP for FY2022-23 BHEP, Balimela (@ 9.6%: interest)	84.74	7.73
Total		556.75	30.557

(v) The interest on loan for each Power Station of OHPC as described above is given below:

Table - 10
Interest on loan of different power stations of OHPC (Rs. Cr.)

Sr. No.	Source of loan	Interest on loan for FY 2023-24						(Rs. In Crs)
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	TOTAL
1.	Normative loan	0.335	0.508	7.958	11.006	6.251	4.499	30.557
2.	Govt. Loan	-	-	-	-	-	-	-
Total		0.335	0.508	7.958	11.006	6.251	4.499	30.557

(vi) Therefore, OHPC has submitted before the Commission to approve Rs 30.557 Cr in the tariff of OHPC for the FY2023-24 for payment of Interest towards Normative Loans of the different Power Stations of OHPC as mentioned in the above table.

c. **Depreciation:**

- (i) OHPC has submitted that clause no. 23(4) of OERC (Terms and Conditions for determination of generation tariff) Regulations, 2020 has specified the norms of depreciation for OHPC as follows:

“Provided 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 the assets.”

- (ii) Further, OHPC has submitted that as per the prevailing practice adopted by the Commission, while determining the ARR, depreciation is being allowed based on the actual loan repayment or @2.57% of project cost, whichever is higher. But on the contrary, the Commission for the FY2021-22 and FY 2022-23 has approved the depreciation of all OHPC power stations @2.57% of the total project cost, although the actual loan repayment in case of some of the power stations were more.
- (iii) OHPC has computed depreciation for the FY 2023-24 @ 2.57% on the historic project cost as on 01.04.1996 (excluding de-capitalization) and including additional capitalization w.e.f. 01.04.1996 up to FY 2020-21). The depreciation so calculated is compared with the Loan repayment and the amount whichever is higher is considered as depreciation for Tariff computation.
- (iv) For UIHEP, OHPC has rescheduled the Recovery of Project Cost & Loan Liability of UIHEP for useful life of 40 years instead of 35 years starting from FY2001-02 to FY2039-40 as per OERC Generation Tariff Regulation 2020. The Repayment of Principal of Govt. Loan @ Rs.30.23 Cr/annum shall continue upto FY 2025-26 and from FY 2026-27 the repayment of Principal of Normative Loan of Rs.78.74 Cr starts upto FY 2028-29 as per the direction of the Commission in the Tariff Order for FY 2013-14. Recovery of Accumulated Interest on Govt Loan of Rs.426.64 Cr starts from FY 2027-28 after repayment of Principal of Govt. Loan as per the Principle stipulated by the Commission in FY2013-14. The repayment is spread @ Rs.32.82 Cr for the balance life period of 13 years.
- (v) Balance Depreciation @15% of Rs.1194.79 Cr amounting to Rs.179.2 Cr shall be spread over the balance life of the project @ Rs.16.29 Cr/annum as per the direction of OERC in Tariff Order for FY 2010-11. Cumulative Interest on Normative Loan (of Rs.78.74 Cr) is Rs.155.36 Cr. The repayment of this accumulated interest shall start after repayment of Principal of the Normative Loan of Rs.78.74 Cr as per the direction of OERC at Para No. 131 of the Tariff Order of OHPC for the FY2013-14. If the Commission approves depreciation of UIHEP as per the direction in the Tariff Order of OHPC for FY 2010-11 than OHPC shall be able to recover 90% of Original Project Cost of Rs.1075.31 Cr. Similarly, as per the direction of OERC at para no. 131 of the Tariff Order of OHPC for FY2013-14, OHPC shall be able to clear the interest liability.

- (vi) The comparative statement for actual repayment of loans and depreciation @2.57% for the FY 2023-24 are shown in the table below to arrive at the depreciation amount claimed by OHPC in the ARR & Tariff of OHPC for the FY 2023-24.

Table - 11
Depreciation Claim for the FY 2023-24 (Rs. in Cr)

Sl. No.	Power Stations	Project Cost	Depreciation @ 2.57%	Loan Repayment	Depreciation Claimed for the FY2023-24	Remark
1.	RHEP	155.06	3.99	2.51	3.99	Depreciation @ 2.57%
2.	UKHEP	139.74	3.59	1.77	3.59	Depreciation @ 2.57%
3.	BHEP	455.72	11.72	9.96	11.72	Depreciation @ 2.57%
4.	HHEP	511.87	13.16	20.79	20.79	Equal to loan Repayment
5.	CHEP	244.20	6.28	7.61	7.61	Equal to loan Repayment
6.	UIHEP	1323.16	34.01	42.75	42.75	Equal to loan Repayment
Total		2829.75	72.73	85.39	90.45	

- (vii) OHPC has submitted to approve Rs. 90.45 Cr towards depreciation for FY 2023-24.

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

- (i) OHPC has submitted that O& M Expenses has been calculated as per OERC Generation Tariff Regulations, 2020. Accordingly, OHPC for computation of O&M Expense of different power stations of OHPC for the FY 2023-24 has escalated the average actual O&M expenses for FY 2020-21 & FY2021-22 @ 5.72% for FY2022-23 & FY2023-24 as per the principle adopted by the Commission in the tariff order of OHPC for the FY2022-23.
- (ii) Further, OHPC submitted that the Commission has deducted an amount of Rs10.012Cr from the O&M Expense of UIHEP, Mukhiguda towards the Dam Maintenance Expense received from DoWR for the FY 2021-22 while computing the O&M expenses of UIHEP for FY 2022-23. Assuming the same principle, OHPC has deducted Rs11.07 Crs from the escalated O&M expenses of UIHEP for the FY 2023-24.

Table - 12
Statement of O & M Expenses for different power stations of OHPC for FY 2023-24
(Rs.Cr.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Corporate office (CO)	Total
1	O & M expenses for FY 2022-23 Approved by OERC.	63.33	47.74	45.34	50.46	23.19	230.07	76.14	41.85	348.05
2	O & M expenses for FY 2020-21 as per Audited Account	50.67	42.46	42.78	49.69	22.12	207.72	68.72	45.08	321.52
3	O & M expenses for FY 2021-22 as per Audited Account	47.84	42.78	42.06	42.90	20.25	195.83	62.22	46.55	304.60
4	Average O&M expenses (2020-21 & 2021-22)	49.255	42.62	42.42	46.295	21.185	201.775	65.47	45.815	313.06
5	Escalation @5.72% for FY2022-23	52.07	45.06	44.85	48.94	22.40	213.32	69.21	48.44	330.97
6	Escalation @5.72% for FY2023-24	55.05	47.64	47.41	51.74	23.18	230.07	73.17	51.21	349.90
7	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	6.28	8.03	12.80	7.22	1.81	36.14	15.06	51.21	
8	Total O & M Expenses for the FY 2023-24	61.33	55.67	60.21	58.97	25.49	261.66	88.24		349.90
Less: Amount Received from DoWR.										
9	Less : Income to be received from DOWR							(-) 11.07		(-) 11.07

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Corporate office (CO)	Total
	towards dam maintenance of UIHEP									
6	Total O&M Expenses for the FY 2023-24.	61.33	55.67	60.21	58.97	25.49	261.66	77.166		338.828

- (iii) OHPC prayed before the Commission to approve Rs 338.828Cr towards O&M Expenses for the FY 2023-24 for the different Power Stations of OHPC as mentioned in the above table.

e. Interest on Working Capital

- (i) OHPC has submitted that clause no. 24(3) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 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.”

- (ii) Further, the Reserve Bank of India has issued guidelines for setting lending rate (on loans) by 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 2022 of SBI for one year was 7.0%. OHPC has considered the MCLR rate of SBI as on 01.04.2022 plus 300 basis point (i.e. 10.00%) for computation of Interest on working capital.
- (iii) Accordingly, based on the above principles, OHPC has calculated the Interest on working Capital of different power stations of OHPC for the FY 2023-24, details of which is given in the table below.

**Table - 13
Interest on Working Capital for FY 2023-24**

(Rs. in Crs)									
Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost for 45 days	8.72	7.79	12.13	14.09	5.89	48.62	22.43	71.06
2	Maintenance spares @ 15% of O&M expenses	9.20	8.35	9.03	8.85	3.82	39.25	11.57	50.82
3	O&M expenses for one month	5.11	4.64	5.02	4.91	2.12	21.81	6.43	28.24
4	Total working	23.03	20.78	26.18	27.85	11.84	109.68	40.44	150.12

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
	capital								
5	Interest on working capital calculated @ 10.00%	2.303	2.078	2.618	2.785	1.184	10.968	4.044	15.012

(iv) OHPC has submitted to approve Rs 15.012 Crs towards Interest on Working Capital for the FY 2023-24 for the different Power Stations of OHPC as mentioned in the above table.

f. Non- Tariff Income

(i) OHPC submitted that Clause 41 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 specifies that 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.

(ii) 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.

(iii) Accordingly, 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 FY2023-24 (based on the audited account of OHPC for the FY 2021-22) are shown in the table below:

**Table - 14
Non-Tariff Income of different Power Stations of OHPC for FY 2023-24 (Rs Cr.)**

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
1	Rent of land & buildings	0.025	0.002	0.003	0.013	0.003	0.004	0.05
2	Sale of scrap	1.820	1.027	1.300	8.176	4.983	5.104	22.41
3	Advertisement	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Total deductible Non- Tariff Income	1.845	1.029	1.303	8.189	4.986	5.108	22.46
5	50% of total deductible Non-Tariff Income to be considered in ARR	0.923	0.515	0.652	4.095	2.493	2.554	11.23

(iv) OHPC has submitted to approve the deductible non-tariff income of Rs11.23 Cr for different power stations for the FY2023-24.

(v) Further, OHPC has submitted that they have adjusted Rs 4.954 Cr (i.e. Rs 24.77Cr/5= Rs4.954Cr) as 1stinstalment of recovery of excess Non-Tariff

income deducted by the Commission in the FY2021-22 as per Order dated 05.09.2022 in Case No. 65 of 2021.

13. Annual Revenue Requirement (ARR) & Tariff for the FY 2023-24

Based on the above parameters the power station wise ARR and tariff of OHPC have been proposed for the FY 2023-24 as follows.

Table - 15
Station wise ARR and Tariff for the FY 2023-24 considering saleable D.E. of 5602.60 MU

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
Existing Saleable Design Energy (MU)	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.60
(Rs. in Crs.)								
Return on Equity	2.979	1.484	16.159	21.082	7.389	49.094	53.993	103.09
Interest on Loan	0.335	0.508	7.958	11.006	6.251	26.058	4.499	30.56
Depreciation	3.99	3.59	11.72	20.79	7.61	47.700	42.745	90.45
O&M Expenses	61.327	55.668	60.214	58.967	25.485	261.662	77.166	338.83
Interest on working capital	2.303	2.078	2.618	2.785	1.184	10.968	4.044	15.012
Total Cost	70.934	63.329	98.670	114.631	47.919	395.482	182.447	577.929
Less: Non-Tariff Income as per Audited Account for FY2021-22	0.923	0.515	0.652	4.095	2.493	8.676	2.554	11.230
Add: Adjustment of recovery of 1 st instalment of excess Non-Tariff income deducted in ARR of OHPC for FY2021-22 (Apportioned as per installed Capacity)	0.607	0.777	1.239	0.699	0.175	3.497	1.457	4.954
Less: Sale of				3.524		3.524		3.524

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
power to CSPDCL								
Total ARR for FY2023-24 (Rs Cr)	70.618	63.591	99.257	107.711	45.601	386.777	181.350	568.127
Average Tariff (P/U)	135.87	77.20	84.75	163.07	94.00	105.67	93.36	101.40

14. Application Fee and Publication Expenses

- (i) OHPC has 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”
- (ii) As per the Commission notification no. 1992 dated 31.08.2009 (in the clause no. 17), the 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). In consideration of the above order, OHPC has to deposit application fee of Rs. 25 Lakhs for the FY 2023-24. OHPC has submitted that OHPC may be allowed to recover the same amount from GRIDCO. Also, considering Rs 2 Lakhs reimbursement towards publication expenses, the Commission may approve Rs 27Lakhs to be reimbursed from GRIDCO.

Table - 16
Application Fees and Publication Expenses FY 2023-24
(Rs. In lakhs)

Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2023-24	25.00
2	Publication expenses for FY2023-24	2.00
	Total	27.00

15. Electricity Duty on Auxiliary Consumption

- (i) OHPC has submitted that 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.
- (ii) Based on the subsequent implementation of 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.

- (iii) Further in pursuance to Sub-section-I of Section-3 of Orissa Electricity (Duty) Act-1961 and supersession to the Govt. Notification No 9539 BT(ed)-01/2016-En dated 27.12.2016, the State Govt, 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 station for FY 2023-24 as reimbursement, the details of which are given below. Hence, OHPC has submitted to approve reimbursement of ED amounting to Rs3.122Cr for the FY 2023-24 from GRIDCO.

Table - 17
ED claim for OHPC power station for FY 2023-24

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)	(Rs. in Crs)
					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

- (i) OHPC has submitted that as per the gazette Notification Dt. 01.10.2010, OHPC has to pay @Rs. 0.01/KWh as Licence Fee on water used for generation of electricity from all Hydro Electric Project and getting the same reimbursed from GRIDCO.
- (ii) The Revenue & Disaster Management Department have amended the Odisha Irrigation (Amendment) Rule, 2016 which was published in Odisha Gazette on 27.09.2016. 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 & @1.3paise/ unit for the FY2019-20 & @1.4paise/ unit for FY 2020-21, @1.5paise/ unit for the FY2021-22 & @1.6paise/unit for the FY2022-23 and got reimbursed from GRIDCO. Accordingly, OHPC shall pay Licence Fee on water used for generation of electricity for FY 2023-24 @1.7 paise/ unit. Hence, OHPC has prayed before

the Commission for approval of provisional amount of Rs 9.649 Cr towards License fee, mentioned in the table below, 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 FY2023-24.

Table - 18
License fee for Consumption of water for generation of electricity FY 2023-24
(Rs. in Crs)

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @0.017Rs/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.893	OHPC will claim reimbursement @Rs 0.017/Kwh on actual generation of each Power Station.
UKHEP	832	1.414	
BHEP	1183	2.011	
HHEP	684	1.163	
CHEP	490	0.833	
UIHEP	1962	3.335	
Total	5676	9.649	

17. SLDC Charges

- (i) OHPC has mentioned that as per OERC (fees & charges of state load dispatch center 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).
- (ii) The Commission has approved for Rs.1.47Cr. for the FY 2022-23, which is to be collected by SLDC from OHPC on monthly basis and OHPC has to reimburse the same from GRIDCO. Since OHPC has not received the ARR, fees & charges of SLDC for the FY 2023-24, the previous year approved charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable by OHPC for the FY 2023-24.
- (iii) Accordingly, Rs.1.554 Crs. has provisionally been considered as fees & charges of SLDC payable by OHPC on the average available Installed Capacity of 1681 MW.

18. Reimbursement of Contribution Made to ERPC

OHPC has stated that annually OHPC is paying Rs15 Lakhs towards contribution to ERPC Establishment Fund &Rs 1.00 Lakh towards contribution to ERPC Fund. Assuming the same claim of ERPC, OHPC has claimed the amount of Rs 16.0 Lakhs as a pass through in the tariff for FY 2023-24 to be reimbursed from GRIDCO. Any excess claim (above Rs16.0 Lakhs) made by ERPC for the FY 2023-24 will be claimed as additional reimbursement in the subsequent Tariff year.

19. Income Tax

Income Tax paid by OHPC for the FY2021-22 is detailed below:

Table - 19
Income Tax paid by OHPC for the FY 2021-22

SL. No	Particulars Amount	Amount (Rs. in crore)
1	Total Other Income (for FY 2021-22)	108.03
2	Less: Reimbursement of Income Tax from GRIDCO	(-) 35.19
3	Less: Dam Share from DOWR (against O&M expenses)	(-) 11.07
4	Less: 50% of the other income to be shared between GRIDCO and OHPC as per Regulation 41 (Income from rent of land or buildings, sale of scrap and advertisement)	(-) 11.23
5	Net other income (i.e., non-tariff income) on which Income Tax should not be reimbursed {5=1-2-3-4}	50.54
6	Income tax @ 25.168% on the above net other income as shown above (Item No. 5)	12.71991
7	Total income tax paid by OHPC	34.61
8	Income tax on Generation Business (which is to be reimbursed as per Regulation 21) (item 7 – item 6)	21.89

Accordingly, OHPC is entitled to get reimbursement of Rs 21.89Cr towards income tax for FY 2021-22 on core income. OHPC has prayed for total reimbursement claim for an amount of Rs.21.89Cr from GRIDCO in the Tariff of OHPC for FY 2023-24 towards reimbursement of Income Tax as per the Audited Accounts of FY2021-22.

20. Details of Reimbursement Cost:

Total reimbursement cost claimed for the FY 2023-24 by OHPC is given in the table below.

Table - 20
Details of Reimbursement for FY 2023-24

<i>Component of Costs</i>	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
<i>(a) License fee for use of water for generation of electricity for FY 2023-24.</i>	0.893	1.414	2.011	1.163	0.833	3.335	9.649
<i>(b) ED on Auxiliary Energy Consumption for FY2023-24.</i>	0.289	0.458	0.651	0.376	0.270	1.079	3.122
<i>(c) SLDC charges for FY 2023-24.</i>							1.554
<i>(d) Application fees and publication expenses for FY2023-24</i>							0.270
<i>(e) ERPC charges for FY2023-24</i>							0.160
<i>(f) Income Tax as per Audited Account of FY 2021-22</i>							21.89
Total							36.645

Thus, OHPC has submitted that the Commission may approve the total reimbursement of Rs **36.645** Cr. as proposed by OHPC in the above table. The above expenditure may be included in GRIDCO's ARR and hence shown as revenue requirement in OHPC filing for FY 2023-24.

21. **Annual Revenue Requirement & Tariff for Machhkund H.E. (Jt.) Scheme**

- (i) OHPC has submitted that the Final bill received from APGENCO towards 50% share of O&M expenditure payable by OHPC to APGENCO for FY 2021-22 amounts to Rs 27.1972 Cr. The total expected annual expenditure towards 50% power purchase cost from MHEP is calculated as Rs. 30.3983 Crores for FY 2023-24 by applying escalation factor of 5.72%. The cost per unit is derived as Rs 1.169 considering drawal of 50% share of saleable design energy of Machhkund i.e. 259.875 MU.

Table - 21
Projected Tariff of Machhkund H. E. (J) Scheme for FY 2023-24

PROJECTED TARIFF OF MACHHKUND (JT.) HEP FOR 2023-24	
	FY 2023-24
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 2021-22.	1.1177
	(Rs. in Crs.)
1. Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2021-22	54.3944
2. 50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2021-22)	27.1972
3. O&M Expenditure for FY 2023-24 applying the escalation factor	30.3983
4. Total Expected Expenditure during the FY 2023-24	30.3983
5. Tariff (Paise/Kwh)	116.972
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs 1.169/kWh during the FY 2023-24 to make payment of O&M cost to APGENCO thereof as per the new Agreement subject to final reconciliation at the year end.	
Reimbursements of Statutory Dues/Duty/Cess as applicable shall be considered under the O&M Expenses	

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

OHPC has submitted that 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 2023-24 for computation of Capacity Charges shall be considered as mentioned in the Table below:

**Table - 22:
Normative Plant Availability Factor proposed by OHPC for FY 2023-24**

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

23. Two-Part Tariff

- (i) OHPC has stated that as per clause no. 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:

$$PAFM = 10000 \times \sum_{i=1}^N DC_i / \{N \times IC \times (100 - Aux)\} \%$$

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 clause (4.41) of OERC (Terms and Conditions for determination of Generation Tariff regulations) 2014.

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

Where,

DE = Annual design energy specified for the hydro generating station in MWh, subject to provisions in Clause-3 (1) (s) of CERC tariff regulations 2020.

Accordingly, annual capacity charges, annual energy charges and energy charge rate of different power stations of OHPC for FY 2023-24 is shown below.

Table - 23
Capacity charge and energy charge of OHPC power stations for FY 2023-24

Name of the Power Stations	Annual Fixed Cost (AFC) (Rs in Crs.)	Annual Capacity Charges (CC) (Rs in Crs.)	Annual Energy Charges (EC) (Rs in Crs.)	Design Energy considering Auxiliary consumption of 1%(in MU)	Energy Charge Rate (ECR) (P/U)
RHEP, Rengali	70.618	35.309	35.309	519.75	67.934
UKHEP, Baraniput	63.591	31.795	31.795	823.68	38.601
BHEP, Balimela	99.257	49.628	49.628	1171.17	42.375
HHEP, Burla	107.711	53.856	53.856	660.52	81.535
CHEP, Chiplima	45.601	22.801	22.801	485.10	47.002
UIHEP, Mukhiguda	181.350	90.675	90.675	1942.38	46.682

OHPC has prayed before the Commission to approve the AFC, ACC, AEC& ECR of its power stations as indicated in Table above for the FY 2023-24.

24. TRUING UP:

- (i) OHPC had filed a petition on 16.09.2020 for truing up between the ARR approved by OERC and actual expenditures/ earning done by OHPC from the FY 1996-97 to FY 2015-16. The matter was registered as Case No. 55/ 2020. The Case was disposed of vide Order dated 03.11.2021. OHPC had filed review petition against the Order (registered as Case No. 11 of 2022) and the Commission had rejected the review petition of OHPC.
- (ii) The view of the Commission, in the Final Order of Truing Up of OHPC power stations from FY1996-97 to FY2015-16 (Case No 55 of 2019) & in the Review Petition of the Truing Up Order (Case No. 11 of 2022), was that, in case of OHPC's generating stations, ARR & Tariff application is being filed by OHPC each year considering the capitalisation/additional capitalisation incurred and to be incurred during the year which is being approved by the Commission in the tariff orders.

- (iii) However, OHPC has submitted that the Commission approves those Capital Cost which are reflected in the latest available audited account without considering the estimated additional capital expenditure. The latest audited account available is always delayed by one year. The Non-approval of Estimated Additional Capital Expenditure violates the provision envisaged in the Clause No 6(2) & 7(6) of OERC (Terms & Conditions for determination of Generation Tariff) Regulations 2020. Moreover, OHPC sustain loss in the following ways due to non-approval of Estimated Additional Capital Expenditure.
- i) Without approval of Estimated Additional Capital Expenditure, Truing Up of OHPC is not possible.
 - ii) OHPC sustains loss of Return on Equity & interest on investment for about 2year.
- (iv) OHPC had filed the Truing Up of different power stations of OHPC for the FY2016-17 to FY 2020-21 for the approval of the Commission. The Case is registered as 53 of 2022. OHPC has submitted to approve estimated additional capital expenditure for FY2022-23 & FY2023-24 in the Tariff Order of OHPC for the FY2023-24. This shall enable OHPC for truing up of FY2023-24 when Audited Account will be prepared in subsequent year.

25. COMPLIANCE TO THE DIRECTIVES AS PER ARR AND TARIFF ORDER OF OHPC FOR FY 2022-23

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
66(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	OHPC has already taken initiatives to develop the following 3 Pumped Storage Projects and 02 Hydroelectric Projects. The DPR preparation work of following Projects are in progress through WAPCOS Limited. <ul style="list-style-type: none"> • Upper Indravati PSP with Installed Capacity of 600MW and annual generation of 729 MU is proposed near the existing UIHEP. • Upper Kolab PSP with Installed capacity of 320MW and annual generation of 506.60 MU is proposed near the existing UKHEP. • Balimela PSP with installed capacity 500 MW and annual generation of 1095 MU is proposed near the existing BHEP • Kharag Hydro Electric Project with installed capacity 63 MW and annual generation of 233.5MU is proposed at Kandhamal District. Salki Hydro Electric Project with installed capacity 44 MW and annual generation of 68.95MU is proposed at Boudh District

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
	should be carried out along with OPTCL for development of power evacuation system.”	
66(b)	<p>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.”</p>	<p>OHPC has already taken initiatives to develop the following 3 Pumped Storage Projects and 02 Hydroelectric Projects. The DPR preparation work of following Projects are in progress through WAPCOS Limited.</p> <ul style="list-style-type: none"> (i) Upper Indravati PSP with Installed Capacity of 600MW and annual generation of 729 MU is proposed near the existing UIHEP. (ii) Upper Kolab PSP with Installed capacity of 320 MW and annual generation of 506.60 MU is proposed near the existing UKHEP. (iii) Balimela PSP with installed capacity 500 MW and annual generation of 1095 MU is proposed near the existing BHEP. (iv) Kharag Hydro Electric Project with installed capacity 63 MW and annual generation of 233.5MU is proposed at Kandhamal District. • Salki Hydro Electric Project with installed capacity 44 MW and annual generation of 68.95MU is proposed at Boudh District. <p>GEDCOL was 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.</p> <ul style="list-style-type: none"> i. To promote investment in renewable energy projects and various green energy sources and to develop and execute special renewable energy project on commercial and / or demonstration basis. ii. To plan, organize, implement, maintain and operate renewable energy projects to generate and sell electric power anywhere in India. <p>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</p>

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
		it has facilitated sanction of projects of total capacity 1792 MW which has been cleared by STC, out of that 430 MW has been commissioned.
66 (c)(i)	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 37.5MW to 43.65 MW) based on Residual Life Assessment (RLA) study, which would add generation with minimum investment and without any environmental issues	<p><u>Status</u></p> <p>RLA /LE /Uprating study and Preparation of DPR for R&M of Unit-7 of HHEP, Burla, & Unit-1 to Unit-5 (05 units) of RHEP, Rengali.</p> <p>RLA /LE study and Preparation of DPR for R&M of Unit-1 to Unit-4 (04Units) of UKHEP, Bariniput</p> <p><u>Specification</u></p> <p><u>Unit-7 of HHEP, Burla</u></p> <p>1x37.5MW Year of Mfg.1990 Turbine - Hitachi, Japan, Generator - Hitachi, Japan.</p> <p><u>Unit-1 to 5 of RHEP, Rengali</u></p> <p>5 x 50 MW Year of Mfg.1985-92 Turbine - BHEL, India, Generator - BHEL,India,</p> <p><u>Unit-1 to 4 of UKHEP, Bariniput</u></p> <p>4 x 80 MW Year of Mfg.1988-93 Turbine - BHEL, India, Generator - BHEL,India,</p> <p><u>Scope of work</u></p> <p>To conduct Residual Life Assessment &Life extension and Uprating Study on Turbine, Generator, Auxiliaries and Civil Structures (excluding Dam &stop-log Gate) related to Unit and to conduct Scientific study at Site and preparation of DPR for Renovation and Modernization or Renovation, Modernization & Uprating of Unit 7 of HHEP, Burla and Unit-1 to Unit-5 (05 units) of RHEP, Rengali. The schedule year of</p>

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
		<p>completion is FY2024-25.</p> <p>To conduct Residual Life Assessment & Life extension on Turbine, Generator, Auxiliaries and Civil Structures (excluding Dam & stop-log Gate) related to Unit and to conduct Scientific study at Site and preparation of DPR for Renovation and Modernization or Renovation of Unit-1 to Unit-4 (04Units) of UKHEP, Bariniput. The schedule year of completion is FY2024-25.</p> <p><u>Estimated cost:</u></p> <p>Unit-7 of HHEP, Burla: Rs 90Lakhs Unit-1 to 5 of RHEP, Rengali: Rs 2 Crores 90Lakhs Unit-1 to 4 of UKHEP, Bariniput Rs 2 Crores 40Lakhs</p> <p><u>Present Status</u></p> <p>Tender was published and sale of tender from Dt.26.09.2022 to 16.11.2022. Last date of receipt of Pre bid Queries on 17.10.2022. Last date and time for submission of tender document is up to 16.11.2022 (01:00 P.M.) and opening of techno commercial bid on Dt.16.11.2022. 3:30p.m.</p>
66 (c)(ii)	<p><i>“Future plan for generation addition either in form of Run of the River (RoR) scheme/ pondage-based scheme & PSS.”</i></p>	<p>The detail future plan for development of new project of OHPC is enclosed.</p>
66 (c)(iii)	<p>Steps being taken to address the silt deposit problem in various power plants, which decrease the live storage capacity of the reservoir.</p>	<ul style="list-style-type: none"> • All the reservoirs are being operated and maintained by DoWR. • Hence, the data on extent of silt deposition, decrease in the live storage capacity of the reservoirs and steps taken to address the silt deposit problems etc., are not available with OHPC. • There is problem of silt deposition in the approach channel of Intake tunnel, Mohulpatna of UIHEP. • As per the estimate of M/s OCC Ltd., 121998.62 CuM of silt & debris was found to be deposited in the approach channel of UIHEP. • The works of removal of silt & debris of the approach channel of UIHEP is being undertaken by

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
		M/S OCC Ltd. amounting to Rs 30, 96, 82,395/- (including cost of survey, GST, PMC @ 10% & contingency charges) and work is in progress.
66 (c)(iv)	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.	<p>OHPC does not come under CEA list of vulnerable power houses. The Early Warning System such as blowing of Siren minimum 30 minutes ahead spinning of machines i.e. release of water to tail race through power houses, is scrupulously followed. Power house wise with disaster mitigation action plan have been prepared and are in place.</p> <p>Detailed facts regarding EWS system at OHPC power house are as follows.</p> <p><u>(i) Early Warning System in Down Stream of Power House</u></p> <p>As a measure of early warning in all Power Houses of OHPC there are siren arrangements and are regularly blown before spinning of first one/two machines when down side river/power channel is empty. Sirens are blown minimum 30 minutes ahead of spinning and are audible to long distance of 2 to 3 Kilometers. There is no habitation/ encroachment in river down side in all the power houses.</p> <p>Every Power House has their Emergency Action and Disaster Management Plan as per the Disaster Management Act 2005, Govt. of Odisha, and the same are reviewed from time to time.</p> <p><u>(ii) Early Warning System in Up Stream of Power House</u></p> <ul style="list-style-type: none"> • There is no EWS in-operation or under construction projects upstream to OHPC projects except Hirakud and Balimela. • Machhkund Project is at the upstream of Balimela which is also a Joint Venture of Odisha & APGENCO. • Kalma Barrage of Chhattisgarh is situated at the upstream of Hirakud Reservoir. Water release from Kalma Barrage is monitored by WR Deptt. • Flood Control and Management of river basin of Odisha is under the jurisdiction of, and is being carried out by the WR Department in Odisha. • OHPC has major reservoir-based Power Houses such as Hirakud, Rengali, Kolab, Indravati, Balimela and primary purpose of these reservoirs are flood control.

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
		<ul style="list-style-type: none"> • WR Deptt. has flood forecasting, warning & control stations located at 11 stations across Odisha covering all major & medium river basins. • WR Deptt. have inflow forecasting system with modern technique such as telemetry system. Readings of river gauges, discharge and rainfall etc. of various water bodies in all basins are collected. They also collect hydro meteorological data from State Depts., IMD & other agencies as per CWC norms. Wireless communication network is being maintained between gauge stations located at different places. • There are adequate Gauge & Discharge stations in different rivers of Odisha. Basin wise travel times of flood water in different rivers from control structures/important gauge stations to other stations have been worked out so that advance warning of flood can be made. • Forecast message and warnings are prepared and communicated to Field Functionaries / District Administrations to take necessary precautionary measures. • WR Deptt. follows the Rule Curve and maintains adequate cushion in all reservoirs as a measure of flood control and management. • WR Deptt. has established a Flood Management Information System (FMIS) which works as a Central Control & Command Station. • It provided real time information on early flood warning, possible inundation by using advanced Remote Sensing & Geographical Information System. • OHPC functions in close coordination with WR Department as far as Flood Control and Irrigation related matters are concerned. <p>Hence as installation of EWS at upstream side is under the purview of WR Department and installation of the same by OHPC will not solve any purpose and accordingly OHPC may be exempted from its implementation work.</p> <p>However the report of discussion on implementation of EWS(Early Warning System) in Hydro Projects, held at CEA, New Delhi on 10.10.2022 is enclosed .</p>
66 (c)(v)	Details of secondary energy fund and utilization of such fund.	The status of secondary energy fund of different power stations of OHPC from 01.04.1996 to 31.03.2022 is provided for kind appraisal of Hon'ble commission. As

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
		on 31.03.2022 the overall secondary energy fund of OHPC is Rs125.031Cr (negative).

C. VIEWS OF OBJECTORS AND REPLY / REJOINDER OF OHPC (Para 26 to 43)

26. Design Energy

- a. One of the objectors observed that OHPC has seven hydro power projects in the state such as Burla, Chiplima, Rengali, Upper Kolab, Balimela, Upper Indravati and Machhkund and generating low cost hydro power for the consumer of the state. The design energy fixed for hydro generation of the above power projects are 5676 MU and actually the hydro stations generates more power than the design energy the OHPC is generating more power than the Design Energy of 5676 MU.
- b. Another objector observed that some of the generating stations like HHEP, CHEP, UKHEP, and MHEP are not able to generate their Annual Design Energy approved by the Commission and the objector submitted to revise the design energy in a separate petition and it can also appoint the independent agency.

Rejoinder

- a. OHPC submitted that the design energy of a Hydro Electric Project is a basic design criteria which is calculated prior to the project inception considering statistical data of rainfall over the catchment and gross total inflow from all source and generator-turbine capacities. Accordingly, 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.”

- b. The actual generation from a hydroelectric project depend on the rainfall pattern, availability of water in the reservoir & machines for generation, 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.

- c. Since the reasons stated above are beyond the control of OHPC, affecting optimum generation of power from the hydro generating plants of OHPC, the Commission may take suitable decision so that, OHPC performance can be improved.
- d. Further, as per the direction of the Commission, OHPC had engaged an independent agency M/s SPARC Ltd. to carry out the Reassessment of Design Energy. M/s SPARC had prepared a report on Reassessment of Design Energy of different power stations of OHPC. The methodology was approved by CEA and was submitted for approval by OERC. The Commission had registered the Case of Reassessment of Design Energy of OHPC as Case No. 121 of 2009 and disposed the case with following observations.

“Para-8: After hearing the representatives of OHPC, the consultant SPARC and the respondents the Commission observes that there is no immediate requirement of reduction of design energy as proposed by OHPC. The Commission has gone through the technical details submitted by OHPC from time to time. As per the directive of the Hon’ble High Court dated 30.3.2012 in WP© No.8409 of 2011 for compensation of generation loss for the water used by industrial units, OHPC is being compensated adequately for upstream utilization of consumption for all reservoir which has been computed at Rs.10.108 crore @ Rs.5.31 /KWH for FY 2011-12 as revealed by OHPC’s submissions.

Para-9: Secondly, the rate of secondary energy in case of hydro stations is equal to the rate of primary energy. OHPC gets the full annual revenue requirements on the basis of design energy approved by the Commission. However, in the event of hydrology failure and worse monsoon years when the energy generation of any hydro projects falls short of its design energy not attributable to the generator, the Commission would consider the revenue short fall occurred on this count in subsequent years as per the CERC Tariff Regulations, on the submission of specific petition by the generator.”

- e. Subsequently, OHPC in the event of hydrology failure had applied for recovery of energy charges as per the CERC regulation but the Commission has not allowed the same and made following observations in the Tariff Order of OHPC for the FY2014-15.

“Compensation claim towards hydrology failure

Para-142: OHPC in its Original Tariff application for the FY 2013-14 had a submission that loss of Energy charges for the period from FY 2009-10 to FY 2011-12 amounting to Rs.105 cr. (approx.) may be considered as pass through in tariff in 05(five) equal installments.

OHPC has stated that the Commission in its order dt.30.01.2013 in Case No: 121/2009 in the matter of Approval of Revised Design Energy of Hydro Stations of OHPC at Clause No. 9 has allowed OHPC to recover in line with the CERC

Regulations, the Revenue shortfall occurred in the event of Hydrology failure & worse monsoon years when the energy generation of any Hydro projects falls short of its Design Energy not attributable to the generators.

OHPC has calculated the hydrology failure of Rs.52.23 Crs. for FY 2009-10; Rs.22.69 Crs. for FY 2010-11 and Rs.36.0 Crs. for FY 2011-12.

OHPC has submitted that a total shortfall of Rs.110.92 Crs. towards Hydrology failure from FY 2009-10 to FY 2011-12 may be allowed as per the CERC norms along with the compensation of Rs.48.73 Crs. on account of restriction in generation for the FY 2012-13. The total claim pending is summarized in the following table.

Table – 24

Sl.No.	PARTICULARS	AMOUNT
1	Hydrology Failure for FY 2009-10	Rs.52.23Crs.
2	Hydrology Failure for FY 2010-11	Rs.22.69Crs.
3	Hydrology Failure for FY 2011-12	Rs.36.00Crs
4	Restriction in generation for FY 2012-13	Rs.48.73Crs.
	Total	Rs.159.65Crs.

Commission’s Observation

Para-143: The Commission has examined the submission of OHPC and observed that the compensation claimed towards hydrology failure is not to be allowed in view of the Commission’s earlier orders dt.10.06.2005 & dt.23.03.2006 wherein OHPC was directed to maintain a separate fund to deposit the revenue earnings out of sale of secondary energy which shall be utilized to replenish the shortfall in revenue due to lesser generation by OHPC in years of hydrology failure to provide necessary comfort to the consumers of the state. {Para 6.5(e) of Order dt.10.06.2005}.”

Till date the OERC has not recognized the secondary energy fund submitted by OHPC in each Tariff Application. Presently the hydrology fund is Rs125.031Crs negative. For details Annexure-6 of the Original Application may please be referred.

- f. Hence, OHPC submitted to recognize the separate fund to deposit the revenue earnings out of sale of secondary energy which shall be utilized to replenish the shortfall in revenue due to lesser generation by OHPC in years of hydrology failure as per the Para 6.5(e) of Order dt.10.06.2005 of the Commission.

27. Additional Capitalization

- a. One of the objectors pointed out that the petitioner hasn’t referred the regulation under which it has claimed huge amount of Rs 414.543 Crs of additional capitalization. This raises question about the reasonableness of the additional capital expenditure incurred by the petitioner and hence, any further view cannot be provided in absence of such crucial information.
- b. M/s GRIDCO pointed out that the Petitioner has submitted to consider the capital works in progress or to be taken up for FY 2022-23 and FY 2023-24 for

calculation of ARR and determination of tariff with a plea that it is going to lose its opportunity cost. However, the Petitioner has failed to appreciate that the interest cost during the period of construction is a part of the capital cost as per Regulation 9(1)(a) of OERC Generation Tariff Regulations, 2020. Further, the reasonableness, cost overrun and time over-run cannot be predicted during the period of construction and may not be allowed without prudence check. There may be cases of cost overrun and time overrun and the Petitioner shall get the benefits in terms of interest on loan and return on equity in absence of disallowance of such factors in calculation of capital cost.

- c. One of the objector submitted that there is exponential rise of 11.92 P/U in the tariff for FY 23-24 over FY 22-23, which may be due to the increase in the additional capitalization. The objector submitted to consider the additional capitalization as reflected in the Annual Audited Accounts of FY 2021- 22 only for calculation of capital cost of the individual power plants of OHPC for FY 2023-24 after prudence check as per the applicable Regulations.

Rejoinder

- a. OHPC submitted that they have applied for Additional Capitalization as per Clause No12 (3) of OERC (Terms & Conditions for determination of Generation Tariff) Regulations 2020 & Clause 4.1.1 of approved PPA. The relevant Clauses of the Regulation & PPA are stipulated as follows:

Clause No.12 (3) of OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2020:

“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.”*

(ii) Relevant portion of Approved PPA:

4.1.1 The Approved Capital Cost shall be:

- (a) Increased by the cost incurred by OHPC in OHPC's complying with its obligations pursuant to and in accordance with clause 2.1(e) &also any*

additional capital expenditure on case to case basis duly approved by OERC can only be passed through tariff.

- b. OHPC had proposed additional capitalization of RM & U of Unit-5&6 of HHEP, Burla& R&M of Unit-1 and 2 of BHEP, Balimela. Similarly Capital Maintenance work of Unit-2 & 4 of UIHEP and Unit-1 of CHEP are considered as estimated capital expenditure for FY2022-23 & FY2023-24. All these major Capital works do have prior approval of the Commission. The details are submitted at Table no.6 of the Original Tariff Application of OHPC for the FY2023-24, which may be referred to.
- c. Further, OHPC has considered the estimated capital expenditures for the FY2022-23 & FY2023-24 as per the provision of Clause 6(2) & 7(6) of OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020. These Capital works are likely to be completed within the approved Tariff period of FY2023-24. Any deviation in actual Capital Expenditure due to cost over- run, time over- run etc. w.r.t the approved estimated Capital expenditure shall be trued up as per the provisions of OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020 and shall be submitted to the Commission accordingly for approval.
- d. OHPC has submitted the following data about capitalization and its impact on proposed tariff for FY 2023-24.

Table - 25

Proposed additional capitalization and proposed increase in tariff of OHPC power stations for FY 2023-24

OHPC Stations	Approved Tariff for FY 22-23	Proposed Tariff for FY 23-24	Increase in P/U	Proposed Additional Capitalization for FY 21-22	Proposed Capitalization for FY 22-23 & for FY 23-24
	P/U	P/U	P/U	Rs. Cr.	Rs. Cr.
RHEP	150.89	135.87	-15.02	0.76	0.00
UKHEP	74.61	77.2	2.59	0.40	4.30
BHEP	66.25	84.75	18.50	61.22	61.00
HHEP	117.28	163.07	45.79	132.93	37.00
CHEP	84.03	94	9.97	0.31	38.81
UIHEP	85.27	93.36	8.09	32.55	45.26
Total	89.48	101.4	11.92	228.17	186.37

- e. OHPC submitted that the claim of Additional Capitalization shown in the Table above are justified due to the following reasons:
 - i) OHPC has claimed additional capitalization as per clause no. 12(3) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation and para no.4.1.1 of approved PPA.
 - ii) All major capitalization proposals have prior approval of the Commission.

- iii) OHPC has considered the Estimated Capital Expenditure for the FY2022-23 & FY2023-24 as per the provision of Clause 6(2) & 7(6) of OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020.
- iv) If the Commission does not allow estimated Capital Expenditure, then it shall be the violation of Clause No. 6(2) & 7(6) of OERC Generation Tariff Regulation 2020. Also, OHPC shall not be able to true-up the Capital Cost if estimated capital expenditure is not allowed.
- v) Considering the benefits to be derived in the long run due to the above renovation / capital expenditure which is in the greater interest of the consumers of the state & GRIDCO, OHPC's claim may be considered by the Commission.

28. Installed Capacity

- a. An Objector submitted that despite having upgradation in generators by huge capital investment, there is no addition of a single capacity by OHPC to the 24041MW installed capacity hydro power during last 25 years. OHPC has replied in the last proceeding that they have upgraded the generators by huge capital investment but design energy could not be upgraded. Such non-performance of OHPC is not digested by the people of Odisha.
- b. One of the objectors submitted that OHPC has applied in their ARR to reduce installed capacity which is not acceptable.

Rejoinder

- a. OHPC submitted that after formation of OHPC, due to enactment of The Orissa Electricity Reform Act, 1995, it has added 802.3 MU as follows to its Installed Capacity.
 - (i) Commissioning of 04 units at UIHEP with Installed Capacity of 600MW (4 x 150MW) on FY2001-02.
 - (ii) Commissioning of Unit-7 & 8 of BHEP, Balimela Expansion project of Installed Capacity of 150MW (2 x 75MW)
 - (iii) Upgrading of Unit-1 & 2 of HHEP, Burla from 37.5MW each to 49.5MW thereby adding 24MW.
 - (iv) Upgrading of Unit- 3 & 4 of HHEP, Burla from 24MW each to 32MW thereby adding 16MW.
 - (v) Upgrading of Unit- 5 & 6 of HHEP, Burla from 37.5MW each to 43.65MW thereby adding 12.3MW.

Thus, OHPC has added 802.3MW (600MW + 150MW + 24MW + 16MW + 12.3MW) to the Installed Capacity after its formation during 1995.

- b. 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.
- c. The objection raised regarding reduction of design energy is not true. OHPC in the Tariff Application for FY 2023-24 has not applied for any reduction of Design Energy for computation of Tariff. Further, regarding the development of hydro projects, OHPC submitted the data in compliance to the directives of Commission furnished in original application of OHPC for the FY2023-24.

29. Performance of OHPC

- a. One of the objectors has suggested to appoint a fact finding committee to access efficiency of each units of OHPC for the greater interest of the consumers.
- b. An objector pointed out that if the installed capacity of a station is enhanced due to renovation, then the revised installed capacity should be taken into consideration for determination of Design Energy. The objector observed that installed capacity of OHPC Power Stations has increased by 38 MW but the design energy is not revised and the volume of ARR of the power stations have increased in the corresponding period because of the capitalization and resulting the generation tariff of OHPC is increasing year after year. The objector submitted that from the study of last 20 years' data, it can be seen that power generation of OHPC has not increased but in the other hand, the volume of ARR of the power stations have increased in the corresponding period because of the capitalisation and resulting the generation tariff of OHPC is increasing year after year. The objector requested to furnish action taken report on performance of OHPC.

Rejoinder

- a. 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 Board of Directors (BoD) and subsequently by the Commission.
- b. The Design Energy of different power stations of OHPC depends on live storage capacity and inflow of water to the reservoir. By renovation & modernization neither the live storage capacity increase nor inflow is affected. Rather due to silting of reservoir, the live storage capacity reduces and there is a need for revision of Design Energy. Similarly the construction of large no of barrage in the upstream of Mahanadi has reduced the inflow of water to a great extent and there is also need for revision of DE.

- c. Increase in the installed capacity after RM&U of different units of HHEP, Burla has helped to generate more cheap hydro powers during peak hours and during emergency as per the requirement of grid. Moreover the life of the generating units is increased further after R&M.
- d. Due to time to time investment by OHPC in Renovation Modernization & Capital Maintenance of existing units, OHPC has been able to provide cheapest power (i.e. around 70 to 90paise per Unit) in the State of Odisha on a sustainable basis avoiding possible power crisis in the state due to possible frequent forced shutdown of old machines. OHPC is also providing one of the cheapest powers in the National scenario.
- e. Further, OHPC has submitted that the performance of OHPC is also dependent on some uncontrollable factor like hydrology failure, Decrease in live storage capacity of the Reservoir due to siltation, Industrial water consumption from the reservoir, Restriction by generation in HHEP below 595ft by DoWR to facilitate irrigation etc. However, OHPC keeps its machine ready to utilise the water available for generation as per the instruction of SLDC. OHPC can exhaust the water available in the reservoir up to MDDL by the end of the water year if DoWR & SLDC permit.
- f. Due to better hydrology condition HHEP, Burla is able to generate more than 900MU by the end of this Financial year. Similarly RHEP, Rengali had already achieved the Design Energy in this Financial year. Similarly BHEP, Balimela& MHEP (Jt.) Scheme are expected to cross their design energy by the end of this Financial Year. The anticipated Generation of different power stations of OHPC for the FY2022-23 is shown in the Table No. 2 above.
- g. Except UIHEP, all other assets transferred to OHPC in case of all other power stations were old hence, OHPC had to make periodic capital investment for renovation/ replacement of those assets to maintain availability of the machines and provide cheap power to the State of Odisha. Besides this, OHPC is forced to replace some of the critical parts like Governor, AVR, Relay & annunciation system, DC system due to obsolescence of technology and difficulty in spare management. OHPC with due approval of the Commission, carry out Renovation & Modernization to increase the life of machine further. By making capital investment, the reliability & performance of machine are improved and the useful life of assets is also increased.
- h. The performance of OHPC has improved over the years. OHPC generating stations provide stability to Grid by quick ramp up, ramp down facility, absorbing & generating of reactive power, providing black start facilities etc. For these services, OHPC is not paid any incentives although all hydro generating station in the central sector are suitably compensated for the same through Ancillary Service Regulation of CERC. Nevertheless, OHPC maintains its weighted Plant Availability factor in the range of 75% to 78% against target level of 83%, which is at per with the National Standard. During better

hydrology year OHPC generation usually crosses 6000MU. Hence the claim of the objector that the performance of OHPC Ltd. is not improved despite investment is not correct.

- i. Besides this OHPC is putting its sincere effort to set up 3 pump storage projects at UIHEP, BHEP & UKHEP. The detail status report is provided at para no- 18 of the Original Tariff Application for the FY2023-24.

30. Issues related with Water Resource Department

- a. One of the objectors observed that OHPC is functioning as a subordinate office of Water Resource Department. The department is regularly not allowing OHPC to generate low cost power for the use of State consumers. Burla Power Project is not allowed to generate power up to 590' water level.
- b. An Objector submitted that in spite of the direction from Hon'ble High Court of Odisha, the water resource department failed to collect 400 Crs from the industries using water, this process of Govt of Odisha to wave out the charges may adversely affect the interest of consumers. As per the High Court order DoWR should collect the energy compensation charge from the industries and hand over to OHPC. Since OHPC has no control over the industries, a huge amount of bill is pending on the industries. OHPC should be held responsible for non-collection of energy compensation charges from the industries and monitor the actual water drawl by the User Industries.

Rejoinder

- a. OHPC generates its power from storage type multipurpose reservoir where electricity generation is considered only after satisfying the requirement /as per the requirement for flood control, irrigation & consumptive use. Operation of all these reservoirs 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.
- b. 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 Department of Energy (DoE) for necessary action. OHPC submitted 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.
- c. As per the direction of the Hon'ble High Court, and provisions under the Executive Instruction of DoWR vide its office letter no.25983/WR dtd. 01.10.2013, OHPC has been raising energy compensation bill against the industrial drawl of water from the reservoirs where the OHPC power stations are situated & has received total amount Rs19.8396Crs from HHEP, Burla up to September 2022 & Rs0.5284Crs from CHEP, Chiplima up to October 2022. The

detail of industry wise receipt of revenue is enclosed at Annexure-9 of Original Tariff Application of OHPC for the FY2023-24, which may be referred.

31. Renewable energy projects and Investment made by OHPC

- a. One of the Objectors pointed out that as per the provision given in Odisha Renewable Energy Policy, 2022, OHPC shall assist GRIDCO in preparing a registry of projects for all Renewable Energy technologies, within three months of issuance of the Policy and update the same time to time. However, OHPC does not spell out anything in this regard in the instant petition.
- b. The Objector pointed submitted that the reply submitted by the Petitioner with respect to directives given at Para 66 of last year tariff order, is just repetition of the reply given in last tariff order. The Objector observed that the DPR preparation works carried out by WAPCOS is unending in respect to the 3 PSS (Pumped Storage System) Projects of south Odisha namely, Upper Indravati, Upper Kolab and Balimela along with the other two hydro- electric projects (Kharag & Salki) of Kandhamal and Boudh district. However, no time bound target is given to OHPC. There is no improvement in the project status. OHPC had done nothing during FY23 in respect to the directives given by the tariff Order for FY22 & FY23.
- c. One of the Objectors pointed out that projection for the Hydro Purchase Obligation (HPO) of the State is prepared from FY-2022-23 up to FY 2029- 30 & accordingly GRIDCO requires around 279 MW of Hydro Power at the end of the FY-2029-30 in order to meet the HPO Obligation as specified by the MoP, Gol. The objector observed that the COD of all the upcoming projects will be after FY-2029-30 as submitted by OHPC. In view of this, objector urged before the Commission to give necessary timeline to the Petitioner to complete the Upcoming Hydro Projects at an early date (before Fy-2029-30) so that the HPO Obligation of the State can be met by utilising the Hydro Potential of the State itself.

Rejoinder

- a. OHPC has submitted that they have submitted the ARR proposal before the Commission on 29.11.2022 & Govt. of Odisha has notified the Renewable Energy Policy on 30.11.2022. So OHPC could not react in the instant petition. However OHPC shall abide to the directives of Govt. stipulated in the above Odisha Renewable Energy Policy 2022.
- b. In compliance to the directives of the Commission in the Tariff Order of OHPC for the FY2022-23, OHPC has furnished the details of upcoming hydroelectric project at Para no -18 of the Original Tariff Application for the FY2023-24.

32. Manpower

One of the objectors submitted that the total staff strength of OHPC is near about 1700 nos. But only 550 workers are managing all power houses. 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 has 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 and hence the allegation is not correct.

33. Depreciation

- a. One of the objectors submitted that in compliance to the direction given by the Commission in its review order dated 30.09.2022, OHPC has submitted the station-wise and year-wise details of the project cost approved by the Commission and depreciation allowed from the FY 1997-98 onwards along with the station-wise and year-wise loan repayment for the said period. Considering the figures given in the Annexure-23 of the Petition, the objectors observed that OHPC has not been able to recover the full depreciation as approved by the Commission. The objector requested the Commission to give necessary directions to OHPC to provide justification for the unrecovered depreciation amount.
- b. One of the objectors observed that the approved repayment of loan is more than the actual loan repayment. Therefore, the contention of the Petitioner that the depreciation amount allowed by the Commission towards repayment of loan is not sufficient does not hold good.
- c. Another objector submitted that the concept of computation of depreciation @2.57% of the Project cost (Gross Fixed Asset) of old assets and actual repayment, whichever is higher has been followed by the Commission for calculation of depreciation to facilitate loan repayment till FY 2020-21. For FY 2021-22 and FY 2022-23, the Commission has approved depreciation @2.57% of the Project cost for each of the generating stations as per Clause 23(4) of the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020. However, OHPC has followed pick and choose approach while analysing the impact of depreciation on the repayment of loan ignoring the overall impact on all the generating stations. OHPC has conveniently ignored the benefits derived out of higher depreciation charges allowed for other generating stations with lower loan repayment obligations. In order to avoid any ambiguity regarding consideration of depreciation, stakeholder submitted that for all the OHPC stations (which have outlived their useful life) except UIHEP, the depreciation amount for different plants as per the actual loan repayment obligation may be considered instead of considering depreciation calculated @2.57%. Further, depreciation should not be allowed to be used to earn additional return over and above the return on equity allowed by the Commission. Moreover, such approach will result in increase in overall tariff for the end consumers.

Rejoinder

- a. OHPC have submitted the compliance in response to the directives of the Commission given in the Review Order dated 30.09.2022 in Case No. 31 of 2022 at para no 10(c) (viii) of the Original Tariff Application of OHPC which may be referred.
- b. OHPC could not recover the approved depreciation due to the following reasons:
 - i) The securitized due of Rs.619Cr towards energy dues along with interest of Rs.202.45 Crs upto FY-2021-22 is still unrecovered from GRIDCO. The portion of depreciation in this Rs.821.45 Crs is still pending with GRIDCO as per the terms of securitization agreement dtd.23.02.2015.
 - ii) OHPC ARR is fixed normatively assuming OHPC power station shall generate its Design Energy to recover the approved Energy Charges & maintain availability of approved NAPAF to recover its approved Capacity Charges in ARR. But in reality, the generating station of OHPC generate more or less than the Design Energy depending upon hydrology condition and availability of water in Reservoirs. Similarly, OHPC could maintain availability either more or less than approved NAPAF. So, approval of depreciation shall never match with recovery of depreciation.
 - iii) The D.E approved by OERC for CHEP as 490MU is unrealistic and needs revision.
 - iv) UKHEP could not achieve its Design Energy due to its constant hydrology failure.

However, the percentage of recovery of Depreciation w.r.t its Project Cost approved is shown in the Table-17 of the Original Tariff Application which is reproduced below:

Table- 26

Power Stations	Total approved Project Cost as 31.03.22 (in Crs)	90% of total approved Project Cost as 31.03.22 (in Crs)	Total approved Depreciation as 31.03.22 (in Crs)	Total Depreciation recovered from GRIDCO as on 31.03.22 (in Crs)	% of Depreciation recovered as on 31.03.22 (in %)
RHEP	151.34	136.02	91.93	91.011	60.14
UKHEP	135.46	121.91	98.68	74.954	55.33
BHEP	339.89	305.90	251.26	230.041	67.68
HHEP	338.66	304.79	210.67	162.432	47.96
CHEP	143.97	129.57	103.63	74.162	51.51
UIHEP	1250.78	1125.70	697.85	662.007	52.93
Total	2360.10	2123.89	1454.02	1294.607	54.85

- c. As per Regulation 9 of OERC Regulation, 2020 Capital cost for a Project shall include: (a) The expenditure incurred or projected to be incurred, including Interest During Construction (IDC) & Incidental Expenditure During Construction (IEDC) and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan. As per Regulation 23 of OERC Regulation, 2020, Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof. The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.
- d. The actual loan repayment amounting to Rs 226.71Cr comprises of State Govt. Loan & PFC Loan of the different Generating Stations of OHPC. Similarly, Normative Loan repayment amounting to Rs195.29 Cr are Loan investment of OHPC. Both the Loans (Outside & Normative) are to be recovered through depreciation. So. Actual Loan (Outside Loan) amounting to Rs226.71 Cr plus Normative Loan amounting to Rs195.29Cr is equal to Approved Loan amounting to Rs 422.0 Cr is correct as submitted by OHPC.
- e. Depreciation @2.57% of project cost does not exist in the Appendix of Depreciation Schedule in the OERC (Terms & Conditions for determination of Generation Tariff) Regulations 2020. The majority of Hydro Asset is having depreciation @5.28%. OHPC had calculated depreciation as per clause no 23 of OERC (Terms and Conditions for determination of Generation Tariff) Regulations 2020. However the abstract of computing depreciation as per OERC Generation Tariff Regulation 2020 & Depreciation computed @2.57% of Project Cost or loan repayment whichever is higher submitted to the Commission is shown in the Table below:

Table - 27
Depreciation claimed for FY 2023-24 as per OERC Regulations and @2.57% or loan repayment, whichever is higher

Sl. No.	Power Stations	Depreciation @2.57 % for FY2023-24 or loan repayment whichever is higher (in Crs)	Depreciation @5.28% for FY2023-24 (in Crs)
1	RHEP	3.99	7.25
2	UKHEP	3.59	7.33
3	BHEP	11.72	23.93
4	HHEP	20.79	25.38
5	CHEP	7.61	12.18
6	UIHEP	42.75	66.11
	Total	90.45	142.18

- f. From the above calculation it is clear that if the previous practice of approving depreciation is allowed, then OHPC shall be able to clear its loan repayment and consumer of Odisha shall have fewer burdens. OHPC has prayed before the

Commission to ensure loan repayment in full and recovery of 90% of project cost at the end of useful life of project.

- g. OHPC has to recover 90% of the Project Cost at the end of useful life. Those power station where the loan repayment is lower than 2.57% of the Project Cost the differential amount is kept in the depreciation fund as recovery 70% to 90% of project cost and recovery of historic cost. Moreover the accumulated depreciation of old replaced asset is deducted as decapitalization. Thus GRIDCO's impression of choose & pick approach is not appropriate.
- h. Some of the Old power stations may have outlived their life but there were lot of additional capitalization in the form of R&M and Capital Maintenance with due approval of the Commission. The debt component of these additional capitalization is still unrecovered. Also 90% of the project cost is still unrecovered in most of the power station.

34. **Return on Equity**

An Objector observed that as per the Regulation 20(2) of the OERC Generation Tariff Regulations, 2020, RoE shall be calculated at a rate of 14%. However, OHPC in its application for approval of ARR for FY 2023-24 has calculated the Return on Equity (ROE) at rate of 15.5% for old Power stations and 16% for UIHEP instead of 14% as mentioned in the OERC Generation Tariff regulations, 2020. The objector requested the commission to consider the above provision while approving the ARR of OHPC.

Rejoinder

- a. OHPC submitted that the Clause No. 20(2) of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 stipulates that, "*Provided that return on equity in case of OPGC (Unit - I & II) and OHPC stations shall be as per the provisions of the PPA.*"
- b. The schedule-5 (2) (v) of mutually agreed PPA of UIHEP between OHPC & GRIDCO stipulates as follows:

"Return on Equity" means 16% of approved equity capital relatable to the generating unit and the Dam/ Civil Works allocable to power generation.
- c. Similarly schedule-5 (11) of mutually agreed PPA of UIHEP between OHPC & GRIDCO stipulates as follows:

"The tariff shall be subject to revision at the time of renewal, replacement or extension of this agreement or if required as a result of any guidelines/ directives that Govt. of Odisha and/or GOI may issue from time to time regarding tariff and its application."
- d. 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. Hence OHPC prayed before the Commission to allow RoE @16% for UIHEP and @15.5% for Old power station as per the proposal of OHPC for the FY2023-24.

35. Reimbursement of Income Tax

One of the stakeholders submitted to the Commission that income tax is chargeable to profit of the organization. The Govt of Odisha does not require that OHPC makes profit in an unlawful manner and as to why consumer will bear the cost of income tax paid on its profit. The Commission grossly violates the CERC regulations also, as per detailed submission made by the stakeholder in previous tariff proceedings.

Rejoinder

- a. OHPC submitted that the Commission at clause no. 21 of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 under the head Tax on Income has stipulated 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.”

- b. OHPC is claiming the reimbursement of income tax as per the above provision. OHPC has claimed Rs21.89Cr as income tax reimbursement for the FY2023-24. The detail calculation is furnished at Table No.27 of the Original Tariff Application, which may be referred.

36. Appointment of the Chairman, OERC:

- a. Shri R P Mahapatra submitted that the Commission is not properly constituted, at present, to hear the ARR and Tariff Applications of the different constituents in the power sector. The Objector referred the provisions given in Section 85(2) and 85(3) of the Electricity Act, 2003, relating to Constitution of Selection Committee to select Members of State Commission. Further, in accordance with the provisions given in Sections 85(2) and 85(3), the Selection Committee should have finalized the selection of the Chairperson by 16.10.2021, i.e. three months before the completion of term of the Chairperson, OERC. Accordingly, the State Government should have issued the Order appointing the successor of the Chairperson, OERC before he demitted office on 15.01.2022.
- b. He submitted that, in contravention of the provisions in the Electricity Act, 2003, no appointment of the Chairperson has been made even though more than 12 (twelve) months have been elapsed in the meantime. The determination of the Tariff through public hearing, is one of the most important functions of the Commission and accordingly all the three Members should hear the Tariff Petitions. The provisions in Section 93 of the Electricity Act, 2003 cannot be considered as applicable, when there is inordinate delay in filling up the vacancy of the post of Chairperson without any justification whatsoever.
- c. Further, he submitted that the Commission may direct that the existing Tariff determined for the FY 2022-23 be continued till determination of Tariff for the FY 2023-24 through public hearing, after the appointment of the Chairperson of the Commission.

Rejoinder

No Comments.

37. True up of Capital Expenditure

One of the objectors referred the first proviso of Clause No 2.13 of OERC Generation Tariff Regulations, 2014, for conducting the true-up exercise along with tariff determination for ensuing year. The objector further submitted that the Commission does not do the true-up exercise based on audited account in the proceeding to revise the generation tariff for the ensuing year. Doing late truing up does not make any sense and late truing up is allowed by the Commission to conceal the corrupt practices of tariff determination. In 2023-24 tariff determination process, the Petitioner does not file the truing up exercise for the previous FY 2021-22 and it is presumed that the Petitioner and the Commission makes plan to bias the Stakeholders and to determine the tariff in an imprudent and unrealistic matter. In view of above, the objector submitted that tendering comment over the Fixed and Variable cost proposed by OHPC in the instant proceeding is not useful. If the provisions of the Act, Policy & Regulations are grossly violated by the Commission in the process of tariff determination, then why should the people object over the instant petition of OHPC.

Rejoinder

OHPC has submitted that they had filed petition on truing up between the ARR approved by OERC and actual expenditures/ earning done by OHPC from FY 1996-97 to FY 2015-16 on 16.09.2020. The matter is registered as Case No. 55/ 2020. The Commission has issued the Order on dtd. 03.11.2021. The observation of the Hon'ble Commission was furnished at Para No. 17 of the Tariff Applications of OHPC for the FY2023-24. Similarly, OHPC has prepared the truing up from FY-2016-17 to FY-2020-21 and filled before the Commission on 12.09.2022. The public hearing on the matter is pending. OHPC has already finalized the Truing Up of different power stations for the FY2021-22 and will be submitting before the Commission shortly.

38. Non- Tariff Income

- a. One of the objectors observed that the OHPC is earning money not only from the sale of power but also from the fixed deposit, House Rent Recovery, Electricity Charges from employees etc. The objector submitted that as per annual account of FY 2021-22, the miscellaneous earning is Rs 108.02 Cr; however, OHPC has considered only Rs 11.23 Cr as nontariff income. The Objector requested the commission to give necessary directions to Petitioner for treatment of miscellaneous earnings: (a) to clarify that the term miscellaneous earning / other income have the same meaning as on-tariff income; (b) clarify that treatment of the share of Non-tariff income to be retained by the Generating Company as per Regulation 41.
- b. Another objector had submitted its stand in an elaborate manner during last tariff proceeding but the Commission remained silent to address the issue of non-tariff income in its order. If the Commission wants to dispose of the present

Petition in its wilful manner as done in previous year, then what is the necessity to put further comment on the same issue.

Rejoinder

- a. OHPC submitted that as per Regulation 41 of the OERC Generation Tariff Regulation, 2020, 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.
- b. However, the detail break-up of Other Income of OHPC as per the Audited Account of FY2021-22 is furnished in the Table below for kind reference.

Table - 28
Other Income of OHPC as per the Audited Account of FY2021-22

Sl. No.	Description	Amount
1.	Total other Income	Rs 108.03Cr
2.	Less: House Rent Recovery	Rs 0.51Cr
3.	Less: Sale of Scrap	Rs 22.41Cr
4.	Less: Total Non-tariff Income under Regulation 41 of OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2020. (Sl. No. 2+3)	Rs 22.92Cr
5.	Less: Dam Share from DoWR	Rs 11.07Cr
6.	Less: Reimbursement from GRIDCO on A/C of Income Tax	Rs 35.19Cr
7.	Less: Interest on Bank Deposits (Interest on accumulated RoE Fund, Depreciation Fund, and other ARR components generated from core business)	Rs 29.50Cr
8.	Balance other income [Sl. No.1-4-5-6-7]	Rs 9.35Cr

- c. OHPC submitted that as per above table, balance Other Income is calculated as Rs 09.35Cr. Moreover, there are no such provisions in OERC (Terms & Conditions for determination of Generation Tariff) Regulations 2020 to deduct the balance other income from the ARR to determine the Tariff of generating stations. Recently the Commission has also directed to meet the proposed capital expenditure of Rs.70.45 Crore towards proposed construction of quarters and drinking water supply system at Balimela & Rengali power stations of OHPC and construction of training hostel at Balimela and Bhubaneswar from the miscellaneous income of OHPC instead of approving for capitalisation.
- d. OHPC has been providing free residential accommodation, free medical facilities at the Project Hospitals/ Dispensaries/ Health Centers and free drinking water supply for the employees and their family members at different Units. It may be noted here that recently OHPC had moved OERC for approval of proposed capital expenditures towards construction of residential houses, training center, drinking water facilities for the benefit of employees working for power generation. But the same was not allowed for passing through tariff and as advised by OERC those capital expenditures are to be met out of miscellaneous income of OHPC. OHPC Management is always concerned for the welfare of the employees of the organization and to protect the health and safety of the employees in the work place, hence the allegations raised are not correct.

39. **Up valuation and ARR**

One of the objectors urged the Commission to direct OHPC authorities not to place the up-valuation demand of govt. of Odisha as it has already been settled & finalized by the Commission in their last ARR orders for the FY 2019-20.

Rejoinder

OHPC submitted that the ARR & Tariff of OHPC Power Stations is computed for FY 2023-24 without considering the impact of Govt. Notification No. 5843 dtd. 03.07.2015 in respect of up valuation of generation asset which may kindly be verified by the objector.

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

- a. Shri Soumya Ranjan Patnaik observed that the in the tariff determination process, the MYT approach in tariff determination and truing up of previous years' is not being followed by the Commission and the tariff determined has been based on only estimated and projected figures submitted by the petitioner.
- b. Further, Section 61 of the Electricity Act, 2003 and the National Tariff Policy (NTP)-2016 notified by Central Govt under Section 3 of the Act, mandates the State Electricity Regulatory Commission (SERCs) and CERC to follow the principle of Multi-Year Tariff (MYT) in framing regulations & determination of Tariff and Charges of the Generating Companies and Licensees. The period of MYT is generally called control period of five years. The Act stipulates the Commission is to determine the Tariff in a prudent and realistic manner for the ensuing year. So, the act of prudence and the reality checking on the part of the Commission is best ascertained from the rate of variation recorded during truing up exercises. In the absence of truing up exercise of the previous year, the Commission loses its capacity of prudent checking of the ARR documents filed by the Licensee for determination of tariff for the ensuing year and for which if the tariff is determined without truing up exercises by the Commission, then it becomes imprudent and unrealistic. The Commission has been determining the Tariff of the Licensee for the previous years in an imprudent and unrealistic manner because while determining the tariff for ensuing year in the past, the Commission did not true up the previous years' tariff order with audited account & business plan.
- c. The objector submitted that the Commission did not pay any heed to the guiding principle of MYT approach as a result of which the performances of the licensees could not reach to the desired level and on the other hand the Tariff increased year after year in an imprudent and unrealistic manner as seen during the last decade. All the SERCs and CERC are following MYT principle to determine tariff, only OERC is an exception. The Tariff Period (control Period) has been approved by the Commission by applying the MYT principle in the regulations. The objector submitted that as per Clause no 7 of OERC Generation Tariff Regulations, 2020, the Petitioner is required to file the forecasted ARR for each year of control period along with the tariff petition for the ensuing year; however, the Petitioner has failed to submit the forecast ARR for the tariff period along with the present Petition. Moreover, the tariff petition shall include the approved, admitted, projected capital cost (duly audited), additional capitalization, decapitalisation, generation plan, expected revenue and other parameters of tariff project-wise as stipulated in the

above regulations along with the proposed tariff for the tariff period; whereas, the Petitioner has grossly failed to follow the above provisions.

- d. He submitted that in view of section 61(f) of the Act, the Commission shall follow the multiyear tariff principles in the proceeding to determine generation tariff. Moreover, because of the constraints put in section 61(a) of the Act, the SERCs shall not ignore the principles and methodologies specified by the Central Commission for determination of Tariff for Generating Companies and Transmission Licensees. The Commission does not take care of the above mandates of the Act in the proceeding to determine tariff. The objector urged that the Petitioner should submit necessary data in view of the above regulations in the instant proceeding well in advance of the public hearing.

Rejoinders

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

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

However, regarding MYT approach, the Commission may suitably decide.

41. Order of Hon'ble Supreme Court:

Shri Soumya Ranjan Patnaik pointed out that the Hon'ble Supreme Court of India, while disposing of the Civil Appeal No. 1933 of 2022 (TPCL Transmission vrs MERC), has held that the State Electricity Regulatory Commissions (SERCs) are not determining Tariff as per the guiding principles specified under Section 61 of the Act and direction is given to all the SERCs for compliance of the guiding principles of section 61 of the Act in making/notifying the desired regulations within three months from the Date of the said Order.

Rejoinder

OHPC submitted that the Commission may suitably decide on this.

42. Asset Management:

Shri Soumya Ranjan Patnaik Hon'ble MLA Khandapada submitted that CERC has launched the final version of e-Assets module titled "SAUDAMINI" w.e.f. 24th July 2021 in order to facilitate the Generating and Transmission Companies to submit information pertaining to assets in service in their generating stations and transmission jurisdiction. The objector submitted to introduce such e-asset module for the stations which are under the control of the Commission. The benefits of prudent e-asset management are enormous in electricity industry. The tariff notified by the SERCs/CERC is directly linked with the value & prudent management of the Assets. Prudent Asset Management is a systematic approach to the governance and realization of value from the things that an entity is

responsible for, over their whole life cycles. In the above backdrop, the respondent urged the Commission to launch the e-module asset management system in Odisha.

Rejoinder

No Comments has been made by OHPC.

43. Other Issues

- a. One of the Objector pointed out to the Commission that OHPC should produce the detail agreement between the government of Andhra Pradesh & their Company regarding power generation & power purchase from Machhkund Hydro Project. Per unit rate of Machhkund Power should not be more than 50 paisa as it was earlier settled.
- b. Another Objector pointed out that as per Odisha Electricity Reform Act, 1995, the main role of OHPC is to develop hydro potentially of the state but that has not yet been done. The Government officials are now operating OHPC in government style. The objector requested the Commission to advice the government not to do so and OHPC should be functioned as an independent body.
- c. One of the Objectors pointed out that the Commission should direct the petitioner to produce the detail loss & profit and balance sheet of GEDCOL, being a 100% owned Company, their Board of Directors along with the performance of the company.
- d. An objector submitted that OHPC is having 49% share of OCPL and now OCPL is a profit making company i.e., more than Rs. 600 Crs. OHPC, having 49% share of the OCPL, the profit should be added as a non-profit income of OHPC.
- e. An objector submitted that OHPC hasn't published their vision document about their future planning and hence, urged that OHPC should publish their vision documents before the hearing of the tariff order.
- f. Another objector submitted that OHPC failed to develop any hydro/mini hydro project for the state. The Government should direct OHPC to appoint fulltime Chairman for the OHPC.

Rejoinder

- a. The New Machkund Agreement 2020 signed between the State of Odisha and State of Andhra Pradesh has been submitted by OHPC.
- b. OHPC submitted the composition of Board of Directors of GEDCOL is as follows:
 - i) Sh. Bishnupada Sethi, IAS : CMD
 - ii) Sh. Ashish Kumar Mohanty : Director
 - iii) Sh. Sarat Chandra Bhadra : Director
 - iv) Sh. Chittaranjan Pradhan : Director
 - v) Sh. Bibhuti Bhushan Acharya: Director
 - vi) Sh. Bijoy Chandra Jena : DirectorFurther, the Balance sheet and profit & loss statement of GEDCOL has also been submitted.
- c. Govt. of Odisha has acquired 49% equity share of OCPL from OHPC w.e.f 30.12.2022 and as such OHPC ceased to be a shareholder in OCPL w.e.f 30.12.2022.

- d. Further, OHPC submits that they normally prepare its annual budget planning based on the requirement of capital expenditure & revenue expenses & probable operating income & other income before the start of any financial year.

44. **VIEWS OF CONSUMER COUNSEL**

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 filed by OHPC for 2023-24. The Consumer counsel's observations /suggestions are summarized below:

- Comparative analysis of tariff approved by the Commission for FY 2022-23 to that of the proposed tariff for FY 2023-24 reveals that there is 13.32% increase on proposed tariff. However for Machkund HEP, proposed tariff is Rs1.17 / kWh for FY 2023-24, which is higher than the approved tariff for FY 2022-23 at Rs1.11 /kWh.
- The Commission may review the reservoir level as on Nov 2022 vis-a-vis the level recorded as on Nov., 2021 and the anticipated and actual generation projected by the Petitioner carefully. The reservoir level as on Nov 2022 are noted to be high (Except BHEP, HHEP) compared to the level recorded as on Nov 2021; also, anticipated generation for FY 2022-23 is projected to be higher than FY 2021-22 by around 18%. 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 2021-22 along with estimated capitalization for next two years for computation of tariff for FY 2023-24. OHPC is claiming for tariff determination for FY 2023-24 considering already approved additional capitalization of Rs.777.90 Cr (up to FY 20-21), and additional capitalization of Rs.228.171Cr (FY 2021-22 audited), and Rs 186.372 Cr (projected for FY 22-23 and FY 23-24) and PSDF grant of Rs 3.375 Crs, was deducted. Capitalization mainly in HHEP, BHEP may be reviewed as per the OERC Generation Regulations. Capital asset not in put to use may not be considered for tariff calculation for FY 2023-24. Details of cost overrun and time overrun, if any, may be submitted. Also, increased capitalization may lead to increased energy generation, and OHPC may submit the required results.
- While calculating equity base, the additional capitalization up to FY 2021-22, can be approved by the Commission. Also, decapitalization should be considered appropriately.
- OHPC has not considered interest on government loan and normative loan of UIHEP for FY 2023-24 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.

- 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.
- Depreciation was allowed as per clause 23 of the OERC Generation Tariff Regulations, 2020, i.e. for existing plants of OHPC. As per the direction of the High Court of Orissa, depreciation may be continued to calculate at pre-1992 norms notified by Government of India.
- 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 11.23 Cr is considered as 50% of deductible non-tariff income. Further, as per review order, OHPC has adjusted 1st installment of recovery of excess NTI deducted by the Commission in FY 2021-22. The same may be reviewed by the Commission.

OBSERVATIONS OF THE STATE ADVISORY COMMITTEE (SAC) (PARA 45)

45. The Commission had convened the State Advisory Committee on 15.03.2023 and took note of their observation on OHPC matter. Director (O), OHPC discussed about the maintenance schedule of different hydro projects and post maintenance status of availability of the units. He mentioned about planning of pump storage projects in the State and informed about the steps taken till now by OHPC in this regard. He said that although machines are available but the generation from hydro project is dependent on rainfall and water availability. He mentioned that CBIP has been engaged for technical audit of power projects and they have submitted the report with some good suggestions. He said that the annual maintenance schedule of OHPC plants is prepared in consultation with GRIDCO/SLDC. Another Member said that there are opportunities to develop SHP, in downstream of Machhakund. He also mentioned about development of pump storage project which is required from the perspective of energy security.

VIEWS OF GOVERNMENT OF ODISHA (PARA 46)

46. The Government of Odisha has communicated their views on the tariff proceeding of the Commission for FY 2023-24 in their letter dated 21.03.2023. However, there is no specific suggestion with regard to tariff of OHPC power stations.

ANALYSIS AND OBSERVATIONS OF COMMISSION ON OHPC'S PROPOSAL (PARA 47 to 65)

47. At the beginning of the hearing, Learned Objectors Shri Soumya Ranjan Patnaik, Hon'ble MLA, Khandapada, Shri R. P. Mahapatra and Shri R. C. Satapathy unanimously raised the objections pointing out that this Commission presently functioning with two Members, one of whom is the Acting Chairperson, cannot legally embark upon hearing on ARR and Tariff Applications for the FY 2023-24. It is submitted by them that the presence of the Chairperson is indispensable for full-fledged hearing on Tariff Application.
48. The objection raised on behalf of the above objectors is legally untenable in view of Section 93 of the Electricity Act, 2003 read with Section 9(4) of the Orissa Electricity Reform Act, 1995 read with Regulation 8(1)(b) of the OERC (Conduct of Business) Regulations, 2004. Hence, this Commission, presently functioning with Acting Chairperson and another Member, is vested with the required quorum for hearing of the petition at hand. Accordingly, hearing on ARR and Tariff proposal of OHPC for the FY 2023-24 cannot be legally deferred on account of vacancy of the post of regular Chairperson. Thus, the objection being untenable was rejected. Consequent upon the same, hearing of the petition was taken up.
49. 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. In the tariff proposal, OHPC has furnished technical information such as type of Hydro stations, Normative Annual Plant Availability Factor (NAPAF), potentials of energy generation and financial details like capital cost, calculation of depreciation, interest on loans, interest on working capital, Operation & Maintenance (O&M) expenses etc. of all Hydro power stations. The station-wise apportionment of capital cost, audited figures for additional capitalisation, component-wise O&M expenses in respect of all Hydro stations have also been provided along with tariff calculations.
50. Section 61 of the Electricity Act, 2003 provides that the Commission shall specify the terms and conditions for determination of tariff and while doing so, shall be guided by the principles and methodologies specified by the Central Commission for determination of the tariff applicable to the Generating Companies. Accordingly, the Commission in exercise of the powers conferred by Section 61 read with Section 62 (1) (a), 86 (1) (a) & (b) and Section 181 of the Electricity Act, 2003, has notified a Regulation called the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 (in short Regulations, 2020) on 26.08.2020 in Odisha Gazette. These Regulations have various provisions specific to the present applicant OHPC. The Commission is to determine ARR and tariff of OHPC power stations strictly as per the said Regulation. While disposing the present petition of the applicant, we will follow the same. When we have Regulations, 2020 in force since the year 2020, therefore, there is no need for making further Regulations in this regard.

51. During the course of public hearing, the objectors 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 adoption of MYT principles under Section 61 (f) of the Electricity Act, 2003 while determining tariff. The MYT principle is a set of parameters which are adopted consistently for determination of tariff for a control period. It gives predictability of the tariff determination for the future years. Our Generation Regulations, 2020 has specified relevant 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 OERC strictly follows the similar principles for determination of tariff. Therefore, it is not proper to say that MYT principles have not been practiced / followed. The Regulation 7 (6) of the aforesaid Regulations of 2020 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 before the Commission. The Commission as per Regulation 1 (4) and Regulations under Chapter 2 of Generation Tariff Regulations, 2020 has been determining the tariff of OHPC power stations. Similarly, as per the Regulation 8 (c) of Generation Tariff Regulations, 2020, the generating plants of OHPC are required to file true up application every year for true 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 registered as Case No. 55/2020 which has been disposed of by the Commission. The true up application for subsequent years is 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 paragraphs of this order. Therefore, the provisions of Regulation regarding adoption of MYT and Truing up is followed by the Commission scrupulously.

53. 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 2023-24 have been determined based on the OERC (Terms and Conditions of Determination of Generation Tariff) Regulations, 2020.
55. **Availability of Power from OHPC**
 - (a) The design energy of all the six generating stations of OHPC (RHEP, UKHEP, BHEP, HHEP, CHEP & UIHEP) is 5676 MU. Deducting 1% towards auxiliary energy consumption and transformation loss, the saleable energy would be 5602.60 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 against its share of 5 MW. As per the agreement between OHPC and CSPDCL, pending the disputes on computation of quantum of power supply of power on RTC basis with or without consideration of PLF, 16.644 MU of energy shall be supplied to CSPDCL from Hirakud Power Station annually. Some objectors has urged for deduction of this energy (16.644 MU) from the saleable energy of HHEP and to deduct the

revenue earned on this account from the ARR of OHPC. The net availability to GRIDCO from OHPC comes to 5602.60 MU.

- (b) The Design Energy and saleable energy of all the six power stations of OHPC for computation of tariff for the FY 2023-24 are given in the table below:

Table – 29

(in MU)				
Sl. No.	Name of the Power Station	Design Energy for FY 2023-24	Design Energy (Considering Auxiliary consumption of 1%) for FY 2023-24	Energy Approved for Sale to GRIDCO for FY 2023-24
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	660.52	660.52
5	CHEP	490.00	485.10	485.10
6	UIHEP	1962.00	1942.38	1942.38
Total		5676.00	5602.60	5602.60

56. Machhakund

Machhakund Power Station is a joint venture project of Government of Odisha and Andhra Pradesh having installed capacity of 120 MW (i.e. 3x17 MW + 3x23MW). 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 is 259.88 MU. The Commission, therefore, approves 259.88 MU as drawal from Machhakund Power Station during FY 2023-24 against 50% share of Odisha.

57. Project Cost

OHPC has submitted that the re-valued cost of old power stations was Rs.1196.80 Crs. as on 01.04.1996 as per Notification vide S.R.O No. 254/96 Dt. 01.04.1996 of the Department of Energy, Government of Orissa. The Commission in their order dated 23.03.2006 had approved the same. Further, the Commission, in the order dated 20.03.2008 had 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 basis of the historical cost of old power station of OHPC, which is Rs. 479.80 Crs as per the Notification No. 1068 dated 29.01.2003 of DoE, GoO.

58. Additional Capitalisation

- (a) OHPC has stated that additional capitalization has been made as per Clause No 12 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations for undertaking/executions of various 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) Based on the Audited Accounts of FY 2021-22 (prepared as per IND AS 2015), OHPC has considered the additional capitalization of Rs. 197.12 Crs for calculation of Tariff for FY 2023-24, details of which is furnished in the following table.

Table - 30
Additional Capitalization during 2021-22 for Tariff Calculation for the FY 2023-24
(in Crs)

SL. No	Power Stations	Additional capitalization from 01.04.1996 to 31.03.2021 (Approved)	Additional Capitalization during FY 2021-22 (Audited)	Additional expenditure proposed for calculation of Tariff for FY 2023-24
(1)	(2)	(3)	(4)	(5) = (3)+(4)
1	RHEP	63.30	0.76	64.06
2	UKHEP	27.83	0.40	28.23
3	BHEP	226.46	55.67	282.13
4	HHEP	283.88	107.42	391.30
5	CHEP	119.79	0.31	120.10
6	Sub Total	721.26	164.57	885.83
7	UIHEP	56.63	32.55	89.18
8	Total	777.89	197.12	975.01

- (c) The Commission had earlier approved capital cost of Old Power Stations of OHPC with additional capitalisation of Rs.721.26 Crs from 01.04.1996 to 31.03.2021 and that of UIHEP as Rs.56.63 Crs totalling to Rs.777.89 Crs upto FY 2020-21. The Commission considers additional capitalisation amounting to Rs.197.12 Crs (Total asset reduction and PSDF grant are not deducted from new capital addition) during the FY 2021-22 (As per the Audited Accounts of FY 2021-22) and the total expenditure, becomes Rs.975.01 cr. in calculation of tariff for the FY 2023-24.

59. Decapitalisation

- (a) As regards decapitalisation, OHPC has given the details of asset reduction in different power stations of OHPC from FY 2011-12 to FY 2021-22 which is furnished in the following table:

Table-31

(Rs. in Crs)

Sl. No.	Name of the Power Station	Asset reduction during the FY 2011-12 to FY 2020-21 (Approved)	Asset reduction during the FY 2021-22	Total Asset reduction during the FY 2011-12 to FY 2021-22
(1)	(2)	(3)	(4)	(5)=(3)+(4)
1	RHEP	0.089	0	0.089
2	UKHEP	0.494	0	0.494
3	BHEP	0.534	6.68	7.214

4	HHEP	11.511	2.75	14.261
5	CHEP	6.928	0	6.928
	Sub Total	19.556	9.43	28.986
6	UIHEP	4.912	0	4.912
	Total	24.468	9.43	33.898

- (b) The Commission had approved Rs.24.468 Crs. as decapitalisation of the asset of different power stations of OHPC for the period from FY 2011-12 to FY 2020-21. There is de-capitalization of Rs.9.43 Cr in the case of old power stations of OHPC during the FY 2021-22. The Commission, after analysis, has considered Rs.9.43 Crs towards the decapitalisation of assets in respect of the old power plants and UIHEP.
- (c) Accordingly, the Commission approves the following Project Cost (as given in the Table-29 below) for Computation of Tariff for the FY 2023-24 considering the total approved (up to FY 2020-21) & audited figure for the FY 2021-22 on account of Additional Capitalization & Decapitalization.

Table -32

Project Cost of Hydro Projects for tariff Calculation for FY 2023-24 (Rs. in Crs.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction from the FY 2011-12 to FY 2021-22	Less PSDF grant for FY 2021-22	Additional capitalization considered in Tariff calculation for the FY 2023-24	Project Cost considered in Tariff calculation for the FY 2023-24
(1)	(2)	(3)	(4)	(5)	(6)=(2)-(3)-(4)+(5)
RHEP	91.09	0.09	0.00	64.06	155.06
UKHEP	108.31	0.49	0.61	28.23	135.44
BHEP	115.42	7.21	1.17	282.13	389.17
HHEP	72.75	14.26	0.43	391.30	449.37
CHEP	92.23	6.93	0.01	120.10	205.40
Sub Total	479.80	28.99	2.21	885.83	1334.43
UIHEP	1194.79 (approved project cost)	4.91	1.16	89.18	1277.90
Total	1674.59	33.90	3.38	975.01	2612.32

For the determination of ARR & Tariff of OHPC for FY 2023-24, the Commission has considered the total project cost as Rs 2612.32 Crs. and the effect of up-valuation of assets has not been considered as usual.

60. Determination of Tariff

(a) Interest on Loan:

OHPC has submitted that the loan liabilities consist of State Government loan and Normative Loans. There is no outstanding loan liability in respect of old hydro stations of OHPC.

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

OHPC has submitted that though, State Govt. loan (at interest rate of 9.8%) has been repaid, the loans from other sources are still pending. As per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020, the normative interest rate for loans in respect of CHEP, RHEP & UKHEP is 9.8%, 9.6 % (PFC loan) for BHEP, Balimela for FY 2022-23, 8.75 % (PFC loan) for HHEP, Burla for the FY 2022-23, and 7% (State Govt. loan) for UIHEP due to the additional capitalization based on audited accounts of FY 2021-22.

- (ii) As per earlier directions of the Commission, OHPC has not considered the impact of interest on Govt Loan & Normative Loan of Rs 78.74Crs in respect of UIHEP for Tariff Calculation for the FY 2023-24. Similarly, in view of the directives of the OERC, OHPC has not claimed the accumulated interest on Govt Loan & Normative Loan in respect of UIHEP as regulatory asset.
- (iii) Considering the above rate of interest on loans (Govt. loan as well as normative loan) for various Hydro generating stations of OHPC for the FY 2023-24, OHPC has proposed the following the interest amount as given in the Table below:

Table –33
Interest on Loan for various Hydro generating stations of OHPC for the FY 2023-24
(Rs. in Crs)

Sl. No.	Source of Loan	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	TOTAL
1	Normative Loan	0.335	0.508	7.958	11.006	6.251	26.058	4.499	30.557
2	Govt. Loan of UIHEP						0.000	0.000	0.000
	Total	0.335	0.508	7.958	11.006	6.251	26.058	4.499	30.557

- (iv) The Commission, after analysis of the same, approves interest payment of Rs.21.884 crs. in respect of all hydro stations of OHPC for FY 2023-24 which is in the following table. The corresponding interest amount for the previous FY 2022-23 was Rs.8.44 cr.

Table –34
Interest on Loan for the FY 2023-24 (Approved)
(Rs. in Crs)

Sl. No.	Source of Loan	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	TOTAL
1	Normative Loan	0.335	0.280	6.309	8.574	3.723	2.662	21.884
2	Govt. Loan of UIHEP						0.000	0.000
	Total	0.335	0.280	6.309	8.574	3.723	2.662	21.884

(b) Depreciation:

- (i) OHPC has computed depreciation for the FY 2023-24 @ 2.57% on the Historic project cost as on 01.04.1996 (excluding de-capitalization) including additional capitalization w.e.f. 01.04.1996 up to FY 2021-22. The depreciation so calculated is compared with the Loan repayment amount and the higher of the two has been considered by OHPC as depreciation for Tariff computation.

The comparative statement for actual repayment of loans, depreciation calculated @2.57% (pre-1992 notified rate) and the depreciation amount claimed by OHPC for each station in the ARR & Tariff calculation for the FY 2023-24 is given in the Table below.

**Table –35
Depreciation claimed by OHPC for the FY 2023-24**

(Rs. in Cr.)

Sl. No.	Power Stations	Project Cost	Depreciation @ 2.57%	Loan Repayment amount	Depreciation Claimed for the FY 2023-24	Remark
1.	RHEP	155.06	3.99	2.51	3.99	Depreciation > loan repayment
2.	UKHEP	139.74	3.59	1.77	3.59	Depreciation > loan repayment
3.	BHEP	455.72	11.72	9.96	11.72	Depreciation > loan repayment
4.	HHEP	511.87	13.16	20.79	20.79	Depreciation= loan Repayment
5.	CHEP	244.20	6.28	7.61	7.61	Depreciation=loan Repayment
6.	UIHEP	1323.16	34.01	42.75	42.75	Depreciation=loan Repayment
Total		2829.75	72.73	85.39	90.45	

OHPC has claimed Rs.90.45 Cr under depreciation for FY 2023-24 in the ARR calculation.

- (vi) However, clause No. 23 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 provides as follows;

“(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-A to these regulations for the assets of the generating station;

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of fifteen (15) years from date of commercial operation shall be spread over the balance useful life of the assets;

Provided 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.”

Accordingly, 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 observed that OHPC has not submitted the details of assets station wise, year wise, pre 1992 asset, additional assets capitalised, asset class and IDC not allowed as per IND AS in the instant petition. The Commission after detailed analysis and scrutiny of the audited accounts now allows the depreciation of Rs.67.14 Crs for the ARR of 2023-24 as per clause 23 of the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

Table - 36

Rs (Crs)

Sl. No.	Name of the Power Station	Project Cost	Depreciation @ 2.57%	Depreciation Approved for FY 2023-24
1	2	3	4 = 3*2.57%	7
1	RHEP	155.06	3.99	3.99
2	UKHEP	135.44	3.48	3.48
3	BHEP	389.17	10.00	10.00
4	HHEP	449.37	11.55	11.55
5	CHEP	205.40	5.28	5.28
	Sub Total	1334.43	34.29	34.29
6	UIHEP	1277.90	32.84	32.84
	Total	2612.32	67.14	67.14

(c) Return on Equity (RoE)

- (i) OHPC has submitted stated that the Commission in the tariff order dated 19th April, 2002 in Case No. 65 of 2001 and Case No. 04 of 2002 in Para 6.4.17 had decided the equity component of OHPC. Based on the above order and subsequent notification of Government dated 29.01.2003, the Return on Equity was allowed to OHPC on new investments made after 01.04.1996.

- (ii) Clause No. 20(2) of the OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 provides the mechanism for allowing ROE which is reproduced below:

“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. The investment in UIHEP, which was commissioned after 01.04.1996, is being 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 2023-24.
- (v) In case of old power Stations OHPC has computed the Equity Base considering approved Additional Capitalization from 1996-97 onwards upto 2020-21 & audited cost for capitalization for FY 2021-22. 30% of these additional capitalizations are considered as Equity Base as per the provision in clause No. 16 of OERC Generation Tariff Regulations, 2020.
- (vi) The details of computation of RoE for different power stations of OHPC for the FY 2023-24 as per the OERC Generation Tariff Regulations, 2020 is furnished in the following table:

Table - 37
Computation of RoE for different power stations of OHPC for FY 2023-24
(Rs. in Crs.)

Sl. No.	Name of the Power Stations	Total Additional Capitalisation from 01.04.1996 to 31.03.2024 less PSDF Grant	Equity Capital rate (%)	Equity Capital	ROE @15.5% for old power stations & @16% for UIHEP
	1	2	3	4	5
1	RHEP	64.06	30	19.218	2.979
2	UKHEP	31.92	30	9.577	1.484
3	BHEP	347.51	30	104.254	16.159
4	HHEP	453.38	30	136.014	21.082

5	CHEP	158.90	30	47.671	7.389
6	UIHEP	1323.16	25 & 30	337.453	53.993
7	Total	2378.94		654.187	103.086

- (vii) The Commission has analysed claim of Return of Equity by OHPC in the tariff petition for FY 2023-24. The OERC 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 has been calculated on Equity base excluding the CWIP portion for FY 2022-23. Accordingly, the Commission approved Rs.91.521 Cr towards Return on Equity for all stations of OHPC for the FY 2023-24, the details of which is shown in the following table:

Table - 38
Return on Equity for different power station of OHPC for FY 2023-24
(Approved by OERC)

(Rs. in Cr.)

Sl. No.	Name of the Power Stations	Total Additional Capitalisation from 01.04.1996 to 31.03.2024 less PSDF Grant	Equity Capital rate (%)	Equity Capital	ROE @15.5% for old power stations & @16% for UIHEP
	1	2	3	4	5
1	RHEP	63.97	30	19.191	2.975
2	UKHEP	27.13	30	8.138	1.261
3	BHEP	273.75	30	82.124	12.729
4	HHEP	376.62	30	112.985	17.513
5	CHEP	113.17	30	33.950	5.262
6	UIHEP	1277.90	25 & 30	323.629	51.781
7	Total	2132.52		580.017	91.521

(d) **O&M Expenses**

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

“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 2023-24, the O&M expenses has been escalated @ 5.72% over the approved O&M expenses for previous year (i.e. 2022-23). OHPC has also deducted Rs. 11.07 Crs from the escalated O&M expenses of UIHEP for FY 2022-23 towards the amount received from DoWR towards Dam Maintenance Sharing of UIHEP for the FY 2021-22. The O & M Expenses proposed by the OHPC is given in the following table.

Table-39
O&M Expenses for different power stations of OHPC for the FY 2023-24

(Rs Cr)										
Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2022-23 approved by OERC	63.33	47.74	45.34	50.46	23.19	230.07	76.14	41.85	348.05
2	O & M expenses for FY 2020-21 as per Audited Account.	50.67	42.46	42.78	49.69	22.12	207.72	68.72	45.08	321.52
3	O & M expenses for FY 2021-22 as per Audited Account.	47.84	42.78	42.06	42.9	20.25	195.83	62.22	46.55	304.60
4	Average of O&M expenses (2020-21 & 2021-22)	49.255	42.62	42.42	46.295	21.185	201.775	65.47	45.815	313.06
5	Escalation @5.72% for FY 2022-23	52.07	45.06	44.85	48.94	22.40	213.32	69.21	48.44	330.97
6	Escalation @5.72% for FY 2023-24	55.05	47.64	47.41	51.74	23.68	225.52	73.17	51.21	349.90
7	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	6.28	8.03	12.80	7.22	1.81	36.14	15.06	51.21	
8	Total O & M Expenses for the	61.33	55.67	60.21	58.97	25.49	261.66	88.24		349.90

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
	FY 2023-24									
9	Less Amount to be received from DoWR towards Dam Maintenance Sharing of UIHEP for FY 2021-22							-11.07		-11.07
10	Total O&M Expenses for the FY 2023-24	61.327	55.668	60.214	58.967	25.485	261.662	77.166		338.828

(iii) The Commission analysed the O&M expenses approved and actuals as per audited accounts for the FY 2020-21 & 2021-22. The average actual amount reflected in the accounts for FY 2020-21 & 2021-22 was escalated by 5.72% to arrive at O&M expenses for the FY 2022-23 & FY 2023-24. The amount received from DoWR has been factored. Accordingly, the Commission approves Rs.338.828 Cr. as proposed by the OHPC towards O&M expenses for FY 2023-24 and the same is shown in the above table. The O&M expenses approved for the FY 2022-23 was Rs.348.05 cr.

(e) Interest on Working Capital

OHPC, in its ARR petition for the FY 2023-24, has computed Interest on Working Capital of different power stations as per the previous approval of the Commission.

(i) Clause no. 24(4) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 relating to Interest on working capital for hydro generating stations is reproduced below:

“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) Further the Clause No. 24(3) of said Regulations stipulates the following regarding rate of interest on working capital.

“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) The Clause No. 3(1)(h) of the said Regulation of OERC 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 2022 of SBI for one year was 7.0%. OHPC has considered MCLR rate of SBI as on 01.04.2022 plus 300 basis point for computation of Interest on working capital.
- (v) Interest on working Capital of different power stations for the FY 2023-24 as submitted by OHPC is indicated in the following table:

Table - 40
Interest on Working Capital for FY 2023-24 (Rs. in Crs.)

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	O & M Expenses for One Month	5.11	4.64	5.02	4.91	2.12	21.81	6.43	28.24
2	Maintenance spares @15% of O & M Expenses	9.20	8.35	9.03	8.85	3.82	39.25	11.57	50.82
3	Receivable equivalent to 45days of Annual Fixed Cost	8.72	7.79	12.13	14.09	5.89	48.62	22.43	71.06
4	Total Working Capital	23.03	20.78	26.18	27.85	11.84	109.68	40.44	150.12
5	Interest on Working Capital calculated @ 10.00%	2.303	2.078	2.618	2.785	1.184	10.968	4.044	15.012

- (vi) The commission analysed the submission of the OHPC in respect of “interest on working capital” for the FY 2023-24 considering the provisions in the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 relating to the working capital for hydro generating stations i.e. receivables equivalent to 45 days of fixed cost, maintenance spares @ 15% of O&M expenses, O&M expenses for one month including security expenses, the rate of interest on working capital on normative basis and equal to the bank rate as on 01.04.2022, MCLR of SBI as on 01.04.2022 which is 7% and 300 basis point. The Commission accordingly has calculated and approves Rs.14.450 Cr as the interest on working capital for the FY 2023-24 (against the proposal of Rs.15.02 Cr by OHPC), the details of which is given in the following table.

Table - 41
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	O & M Expenses for One Month	5.11	4.64	5.02	4.91	2.12	21.81	6.43	28.24

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
2	Maintenance spares @15% of O & M Expenses	9.20	8.35	9.03	8.85	3.82	39.25	11.57	50.82
3	Receivable equivalent to 45days of Annual Fixed Cost	8.74	7.74	11.06	12.11	5.04	44.69	20.75	65.44
4	Total Working Capital	23.05	20.73	25.11	25.87	10.98	105.74	38.76	144.50
5	Interest on Working Capital calculated @ 10.00%	2.305	2.073	2.511	2.587	1.098	10.574	3.876	14.450

(f) **Non-Tariff Income**

OHPC in its petition has proposed the deductible Non-Tariff income of different power Stations of OHPC for FY 2023-24 amounting to Rs. 11.23 crs on the basis of the provisions of Regulation 26 and 41 of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 Regulation 62 of the CERC (Terms and conditions of Tariff) Regulations, 2019 and observation of the Commission in the review of tariff Order of OHPC for the FY 2021-22.

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

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 contactors 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 2021-22 as per Regulation 41 of the OERC's Generation Tariff Regulation, 2020. From the audited accounts, it is observed that OHPC has earned Rs.22.97 Cr from (a) rent of land and buildings, (b) sale of scrap and (c) advertisements. As per Regulation of OERC, the Non-Tariff net income from the above three sources shall be shared between the beneficiaries and the generating company, in the ratio 50:50. Accordingly, the Commission allows Rs.11.485 as the deductible Non-Tariff income of different Power stations of OHPC for the FY 2023-24, the details of which is shown in the following table.

Table -42
Deductible Non-Tariff Income of different Power Stations of OHPC for FY 2023-24
(Rs. in Crs.)

Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
1	Rent of land & buildings	0.25	0.02	0.03	0.13	0.03	0.10	0.56
2	Sale of scrap	1.820	1.027	1.3	8.176	4.983	5.104	22.41
3	Advertisement	-	-	-	-	-	-	-
4	Total deductible Non-Tariff Income	2.07	1.047	1.33	8.306	5.013	5.204	22.97
5	50% of total deductible Non- Tariff Income to be considered in ARR	1.035	0.5235	0.665	4.153	2.5065	2.602	11.485

(g) **Total Annual Fixed Cost**

Based on the above components, ARR and average tariff for different hydro power stations of OHPC have been calculated for the FY 2023-24 considering the total Saleable Design Energy of 5602.60 MU, the details of which is shown in the following table.

Table - 43
ARR and Tariff for different Hydro stations of OHPC for the FY 2023-24 considering saleable Design Energy of 5602.60 MU

(Rs. in Crs.)									
Components	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total FY2023-24	Approved for 2022-23
Saleable Design Energy (MU)	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.60	5602.60

Return on Equity	2.975	1.261	12.729	17.513	5.262	39.740	51.781	91.52	83.852
Interest on Loan	0.335	0.280	6.309	8.574	3.723	19.221	2.662	21.88	8.44
Depreciation	3.985	3.481	10.002	11.549	5.279	34.295	32.842	67.14	62.4
O & M expenses	61.327	55.668	60.214	58.967	25.485	261.662	77.166	338.83	337.924
Interest on Working Capital	2.305	2.073	2.511	2.587	1.098	10.574	3.876	14.450	14.14
Total Cost	70.927	62.764	91.766	99.190	40.847	365.493	168.327	533.819	506.755
Less Non Tariff Income	1.035	0.524	0.665	4.153	2.507	8.883	2.602	11.485	2.402
Adjustment of Non-Tariff Income of FY2021-22	0.607	0.777	1.239	0.699	0.175	3.497	1.457	4.954	0.000
Less Sale of Power to CSPDCL				3.5		3.5		3.5	3.040
Total ARR for FY2023-24	70.50	63.02	92.34	92.24	38.52	356.61	167.18	523.79	501.31
Average Tariff (P/U) for 2023-24	135.64	76.51	78.84	139.64	79.40	97.43	86.07	93.49	89.48
Average Tariff for the FY 2022-23 (P/U) (Approved)	150.89	74.61	66.25	117.28	84.03	91.710	85.27	89.48	

- (ii) Accordingly, the Commission approves ARR of Rs.523.79 crs. at an average tariff of 93.49 P/kWh (against proposed ARR of Rs.568.127 cr. and average tariff of 101.40 P/kWh).

61. Reimbursements for FY 2023-24

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

- (i) OHPC has submitted that the clause no.47 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 regarding “Application and Publication Expenses” stipulates 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 Clause No.17 of the Commission’s Notification No.1992 dated 31.08.2009, the application fee has been fixed for Rs.5,000/- per MW 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). Accordingly, OHPC has submitted to allow Rs.25 Lakhs as application fee for the FY 2023-24.

OHPC has also proposed Rs.2.0 Lakhs as reimbursement towards publication expenses for the FY 2023-24. Therefore, OHPC has been proposed Rs.27 Lakhs

to be reimbursed from GRIDCO, the details of which are given in the following table.

Table – 44
Application Fee & Publication Expenses

(Rs. in Lakhs)		
Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2023-24	25.00
2	Publication expenses for FY2023-24	2.00
	Total	27.00

- (v) The Commission approves Rs.27 lakhs as proposed by OHPC towards application fee and publication expenses, which is to be reimbursed from GRIDCO and pass through in the ARR of GRIDCO for the FY 2023-24.

(b) Reimbursement of Electricity Duty on Auxiliary consumption

- (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 reimbursed by GRIDCO & passed on to ARR of GRIDCO for the FY 2023-24. Accordingly, GRIDCO will make payment against the supplementary bill raised by OHPC within 30 days of receipt of bills.

The Government of Odisha, Energy Department vide notification No.912 dated the 12.05.2017 has revised the rate of ED from 30 paisa per Unit to 55 paisa per Unit with effect from 12th May 2017. Accordingly, OHPC has computed and claimed ED for Rs.3.122 Cr for all power stations for FY 2021-22 as reimbursement from GRIDCO, the details of which is given in following Table:

Table - 45
ED payable by OHPC Power station for the FY 2023-24

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 (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) The Commission provisionally approves an amount of Rs.3.122 cr. as proposed by OHPC for reimbursed from GRIDCO in the FY 2023-24.

- (c) **Reimbursement of License fee for use of water for generation of electricity:**
- (i) OHPC has submitted that as per the amendment made in Rule-23-A-(2) (f) of the Odisha irrigation Rule, 2016 and published in Odisha Gazette on 27.09.2016, the license fee for drawl or allocation of water has been enhanced @10% per annum w.e.f. 1st day of April. Accordingly, the water cess @ 1.6 paise/unit for the FY 2022-23 was paid by OHPC at the notified rates and was reimbursed from GRIDCO. OHPC will pay Licence Fee @ 1.7 paise/ unit on water used for generation of electricity for FY 2023-24 which is projected in the following table.

Table - 46
Licence Fee on water used for generation of electricity for OHPC Power station for FY 2023-24

Power Stations	Design Energy (in MU)	Licence fee for use of water as Proposed by OHPC @Rs 0.017/kWh of Generation (in Crs)	Remarks
RHEP	525	0.893	OHPC will claim reimbursement @Rs 0.017/kWh on basis of actual generation of each Power Station.
UKHEP	832	1.414	
BHEP	1183	2.011	
HHEP	684	1.163	
CHEP	490	0.833	
UIHEP	1962	3.335	
Total	5676	9.649	

- (ii) The Commission provisionally approves an amount of Rs.9.649 cr. as proposed by OHPC for reimbursement from GRIDCO in the FY 2023-24 based on the design energy of various power stations of OHPC. OHPC will claim reimbursement on the basis of actual generation of each power station of OHPC.

(d) Reimbursement of SLDC Charges

- (i) OHPC has submitted that as per the 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 1.47 Crs. to be reimbursed from GRIDCO by OHPC towards payment of SLDC fees & charges for the FY 2022-23 considering 1708 MW as average available capacity of 1708 MW from OHPC's power stations for the FY 2022-23, which is to be collected by SLDC from OHPC on monthly basis.
- (ii) OHPC has further submitted that Fees & charges of SLDC has been escalated @5.72% over the previous year approved charges to arrive at the charges payable for FY 2023-24. Accordingly, Rs.1.546 Crs. has been proposed as fees & charges of SLDC payable by OHPC based on expected average available Capacity of 1681 MW from OHPC's Power Stations for the FY 2023-24 considering the shutdown of different generating units on account of Renovation & Modernization & other planned maintenance.

(iii) Based on above submission of OHPC, the Commission provisionally approves Rs.1.546 Cr to be reimbursed from GRIDCO by OHPC towards payment of SLDC's fees & charges for the FY 2023-24 considering 1681 MW as average available Capacity from OHPC power Stations for the FY 2023-24.

(e) Reimbursement of contribution made to ERPC

(i) OHPC has submitted that it is contributing towards ERPC establishment fund & ERPC fund from the FY 2006-07 onwards as per their demand note. Presently, OHPC is paying Rs.15 Lakhs towards contribution to ERPC Establishment Fund & Rs. 1 Lakh towards contribution to ERPC Fund on annual basis. Expecting the above claim of ERPC, OHPC has proposed Rs.16.0 Lakhs as a pass through in the tariff for FY 2023-24 to be reimbursed from GRIDCO. Any excess claim (above Rs.16.0 Lakhs) made by ERPC for the FY 2023-24 will be claimed as additional reimbursement in the subsequent Tariff year.

(ii) The Commission approves Rs.16 lakhs for payment towards ERPC contribution for the FY 2023-24, which is to be reimbursed from GRIDCO.

(f) Income Tax

(i) OHPC has submitted that the Clause No. 21 of OERC (Terms & Conditions for determination of Generation Tariff) Regulations, 2020 regarding 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 FY2021-22 is detailed below:

Table-47

Particulars	Amount (Rs in Crs.)
Total Other Income (For FY 2021-22)	108.03
Less: Reimbursement of Income tax from GRIDCO	-35.19
Less: Dam Share from DoWR (against O&M expenses)	-11.07
Less:50% of other income to be shared between GRIDCO and OHPC as per regulation 41	-11.48
Net other Income (i.e. Non-Tariff Income) on which income tax should not be reimbursed	50.29
Income tax @ 25.168% on the above Income (50.29*25.168/100)	12.66
Total Income tax paid by OHPC	34.61
Income Tax on Generation Business (Rs.34.61-Rs.12.66) which is to be reimbursed as per Regulation 21	21.95

(ii) The Commission has examined the Audited Accounts of OHPC for the FY 2021-22. From the audited balance sheet, it is observed that out of total Profit Before Tax (PBT) of Rs.122.83 Crs., interest of Rs.29.50 Crs. has been earned

on fixed deposits, interest of Rs.3.12 Crs. has been earned from other income and non-tariff income of Rs.22.46 Crs. (non-core activities). Applying the applicable tax rate of 25.168% on this amount the tax amount works out to Rs.13.86 crs. on the non-core activities. Thus, after excluding Rs.13.86 cr. from the total income tax of Rs.34.61 Crs. paid during FY 2021-22, the balance amount of Rs.20.75 Crs. is the tax on core business. The details of income tax on core activities are given in the table below:

Table - 48
Income tax on core activities

	(Rs. in Cr.)
Total Income Tax paid by OHPC during FY2021-22	34.61
Less: Income tax on noncore business (Income tax @25.168% on interest earnings from FD of Rs 29.50 Crs and other income of Rs 3.12 Crs)	8.21
Less: Income tax on deductible non-tariff income (Income Tax @25.168% on Rs.22.97 Crs).	5.78
Income Tax on core income to be reimbursed from GRIDCO	20.62

- (iii) OHPC in its additional submission has submitted that in the ARR filing for the years i.e., from FY 2018-19 to FY 2021-22, claim for IT reimbursement had been made against the FY 2016-17 to FY 2019-20 in the similar manner as had been adopted while filing ARR for the FY 2017-18 with regard to calculation of income from core business and OERC has approved the claim. However, keeping in view the basis of calculation as considered by OERC while approving the Tariff for FY 2017-18, it is found that, in the ARR for FY 2018-19 to FY 2021-22, OHPC has been allowed to receive excess of Rs 18.56 Crs from GRIDCO through reimbursement of income tax pertaining to the period from FY 2016-17 to FY 2019-20. The Commission after scrutiny takes into cognizance the excess reimbursement of income tax from GRIDCO.
- (iv) Therefore, the Commission approves Rs.2.02 Crs. (Rs 20.62 Crs – Rs 18.56 Crs) towards income tax as reimbursement claim from GRIDCO for FY 2023-24 based on the audited accounts of FY 2021-22.
62. The details of reimbursement claim from GRIDCO for FY 2023-24 by OHPC 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 are summarized in the table below:

Table –49
Details of Reimbursement from GRIDCO for the FY 2023-24 (Rs. Cr.)

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(a) License fee for use of water for generation of electricity	0.893	1.414	2.011	1.163	0.833	3.335	9.649
(b) ED on Auxiliary Energy Consumption	0.289	0.458	0.651	0.376	0.270	1.079	3.122
(c) SLDC charges							1.546

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(d) Application fees and publication expenses							0.270
(e)ERPC charges							0.16
(f) Income Tax as per Audited Account of FY 2021-22							2.06
Total							16.807

In view of the above submission of OHPC, the Commission approves total reimbursement of Rs.16.807 Crs. From GRIDCO and the above expenditure is to be included in GRIDCO's ARR for the FY 2023-24.

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) & Energy Charge and is to be shared in the ratio of 50:50. 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 2023-24 is shown in the following table:

Table- 50
Capacity Charge and Energy Charge of OHPC Power Stations for the FY2023-24

Name of the Power Stations	Annual Fixed Cost (AFC)	Annual Capacity Charges (ACC) (50% of AFC) (Rs in Crs.)	Annual Energy Charges (AEC) (50% of AFC) (Rs in Crs.)	Saleable Energy (in MU)	Energy Charge Rate (ECR) (P/U)
RHEP, Rengali	70.499	35.25	35.249	519.75	67.82
UKHEP, Baraniput	63.017	31.51	31.509	823.68	38.25
BHEP, Balimela	92.340	46.17	46.170	1171.17	39.42
HHEP, Burla	92.232	46.12	46.116	660.52	69.82
CHEP, Chiplima	38.515	19.26	19.258	485.10	39.70
UIHEP, Mukhiguda	167.18	83.59	83.591	1942.38	43.04

- (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 based 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 2023-24 for computation of Capacity Charges shall be considered as mentioned in the Table below:

Table-51

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) The erstwhile Chhattisgarh State Electricity Board (CSEB), presently Chhattisgarh State Power Distribution Company Limited (CSPDCL) is drawing 5MW of power from Hirakud generating station as share of Chhattisgarh State (erstwhile share holder being Madhya Pradesh) and is taking a plea since the FY 2006-07 to pay the energy charges at the tariff approved by the Commission for HHEP and applicable to the consumers of Odisha, considering this as a supportive measure extended by the Govt. of Odisha. This tariff is considerably lower than the actual cost of generations from HHEP and billing is made to them as per the Minutes of Meeting dtd. 24.12.2004.
- b) CSPDCL has suggested that as power is being purchased from a hydel power project situated in Orissa it has a status of inter-state project, as such tariff should be decided in accordance to norms approved by Central Electricity Regulatory Commission. It is further jointly agreed that Orissa State Electricity Regulatory Commission shall be requested to decide the tariff from 2006-07 onwards in accordance to regulation notified by CERC, treating HHEP Burla as an inter-state entity.
- c) Presently it is decided that from 2008-09 onwards CSPDCL shall pay at a rate as approved by OERC provisionally till the rate approved by appropriate Commission and afterwards necessary adjustment shall be done in accordance with the law.
- d) Accordingly, as per the request of OHPC the Commission has fixed the ECR of billing to CSPDCL for the FY 2015-16 to FY 2022-23. While determining the tariff concession given by the Govt. of Odisha for the state consumers in terms of moratorium of up-valuation of assets etc. shall not be considered. Accordingly, OHPC has computed the provisional tariff of Rs.219.674 P/kWh for billing of Energy to CSPDCL for the coming FY 2023-24 as per the CERC (Terms and Conditions of Tariff) Regulation, 2019 as furnished in the table below;

Table -52

Tariff for CSPDCL for 2023-24

Details of Expenses HHEP	Amount (Rs in Crs)
Salable Design Energy of HHEP (in MU)	677.16
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2021 - Decapitalization)	569.45Cr

Return on Equity (@ 25.168%)	43.00
Interest on Loan	13.51
Depreciation (@ 5.28%)	30.07
O & M expenses (Escalated @ 4.77%)	58.83
Interest on Working Capital (@ 10.50%)	3.35
Total ARR	148.75
Average Tariff (p/u)	219.674

- e) The Commission after considering the same approves the average tariff of 219.674 p/u for HHEP for billing to CSPDCL for FY 2023-24 as against 182.598 p/u approved during FY 2022-23. The Commission has considered the impact of the sale of power to CSPDCL from HHEP as 5 MW/16.644 MU. The Commission observed that the revenue likely to be earned from the sale of 5MW of power to CSPDCL is around 3.5 cr. Therefore, Commission in this ARR calculation has deducted 16.644 MU of power from the saleable energy of HHEP and revenue of Rs 3.5 crs. from ARR of HHEP to arrive at the average tariff of OHPC stations.

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 venture project between Andhra Pradesh and Odisha Government) is almost 60 years old and it has been proposed to go for Renovation and Modernisation of all the six units in phases and up-gradation, wherever possible, taking into account 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 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 the share of 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 in respect of Odisha's share of energy available from MHEP including the power drawn through the distribution network connected to MHEP.
- (e) OHPC has stated that MHEP(Jt.) being a fully depreciated project, and presently, in absence of any tariff mechanism for recovery of the investments, all expenditure of MHEP is being 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. 25.1972 Crs. for the FY 2021-22 has been escalated twice @ 5.72 % per year to arrive at Rs. 30.3983 Crs towards the share of Govt. of Odisha / OHPC for FY 2023-24 payable to State of Andhra Pradesh / APGENCO. The cost per unit is Rs 1.1697 considering drawal of 50% share of saleable design energy of Machhakund i.e. 259.875 MU.
- (f) The calculation of projected tariff by OHPC for MHEP for the FY 2023-24 is given in the table below:

Table -52

Projected Tariff of Machhakund (JT.) HEP for 2023-24	
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
Odisha Share (50%) 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
Share of Odisha (50%) against Saleable Design Energy (MU)	259.875
Energy Drawal of GRIDCO (Total Share of Odisha) (MU)	259.875
O&M for two years over the O&M Bill of MHEP for FY 2021-22. Considering Escalation factor @ 5.72 %	1.1177
	(Rs. in Crs.)
1. Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2021-22	54.3944
2. 50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2021-22)	27.1972
3. O&M Expenditure for FY 2023-24 applying the escalation factor of 5.72%	30.3983
4. Total Expected Expenditure during the FY 2023-24	30.3983
5. Tariff (Paise/kWh)	116.972
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs 1.169/kWh during the FY 2023-24 to make payment of O&M cost to APGENCO as per the new Agreement subject to final reconciliation at the end of the year.	

- (g) The Commission has scrutinized the proposal of OHPC and approves a tariff of 116.972 paisa/kWh for energy drawl of 259.875 MU against 50% share of Odisha for the FY 2023-24. OHPC shall raise monthly bill accordingly to GRIDCO subject to year-end adjustment as per existing practice.

The summary of ARR and generation tariff for different generating stations of OHPC excluding Machhakund as approved by the Commission for FY 2023-24 is given in the Table below:

Table – 53
Summary of ARR and generation tariff of OHPC for the FY 2023-24 (Approved by the Commission)

	Year	RHEP, Rengali	UKHEP, Baraniput	BHEP, Balimela	HHEP, Burla	CHEP, Chiplima	OHPC Old Stations	UIHEP, Mukhiguda	OHPC Total
ARR (Rs Cr)	Approved FY 22-23	78.43	61.45	77.59	80.5	40.76	335.69	165.62	501.31
	Proposed FY 23-24	70.62	63.59	99.26	107.71	45.60	386.78	181.35	568.13
	Approved FY 23-24	70.50	63.02	92.34	92.24	38.52	356.61	167.18	523.79
Saleable Design Energy (in MU)	Approved FY 22-23	519.75	823.68	1171.17	677.16	485.1	3660.22	1942.38	5602.6
	Proposed FY 23-24	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.6 0
	Approved FY 23-24	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.6 0
Capacity Charges (Rs in Crs.)	Approved FY 22-23	39.21	30.73	38.79	38.73	20.38	167.85	82.81	250.66
	Proposed FY 23-24	35.31	31.80	49.63	53.86	22.80	193.39	90.67	284.06
	Approved FY 23-24	35.25	31.51	46.17	46.12	19.26	178.30	83.59	261.89
Average Tariff (P/U)	Approved FY 22-23	150.89	74.61	66.25	117.28	84.03	91.71	85.27	89.48
	Proposed FY 23-24	135.87	77.20	84.75	163.07	94.00	105.67	93.36	101.40
	Approved FY 23-24	135.64	76.51	78.84	139.64	79.40	97.43	86.07	93.49
Energy Charge Rate (P/U)	Approved FY 22-23	75.45	37.3	33.12	58.64	42.01	45.86	42.63	44.74
	Proposed FY 23-24	67.93	38.60	42.37	81.54	47.00	52.84	46.68	50.70
	Approved FY 23-24	67.82	38.25	39.42	69.82	39.70	48.71	43.04	46.74

The unit cost of energy from Machhakund as approved by the Commission is 116.972 P/kWh for FY 2023-24.

- (h) The ARR has been approved for the FY 2023-24 (i.e. from 01.04.2023 to 31.03.2024) and the tariff now approved shall be effective from **01.04.2023** and shall be in force until further orders.
- (i) OHPC has filed petition for truing up expenditure of different power stations of OHPC for the FY 2016-17 to FY 2020-21 for the approval of the

Commission. The Case has been registered as 53 of 2022 and the Commission will dispose of this petition in a separate order.

66. Directives of the Commission

- (a) Odisha is not a renewable rich state. In near future there is no likely substantial addition of generation from hydro sources. 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 long term power demand of the State of Odisha in line with Generate Resource adequacy planning of CEA and 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 and transmission system development should be carried out along with OPTCL.
- (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 the hour. Accordingly, OHPC should plan and explore the feasibility of generation capacity addition without further delay which will provide the cleanest form of energy for meeting peak demand, HPO and for balancing the intermittency in RE penetration. It would help in socio-economic development of people of the State of Odisha.
- (c) OHPC should expedite the R&M/uprating work associated with HHEP, RHEP & UKHP, which would add generation capacity with minimum investment and without any environmental impact.
- (d) OHPC is directed to provide details relating to following:
- Status of R&M/uprating of existing old hydro plant (Unit-7 of HHEP, Unit-1 to 5 of RHEP and Unit-1 to 4 of UKHEP based on Residual Life Assessment (RLA) study.
 - Status of implementation of pumped storage plants associated with Upper Indrabati, Upper Kolab and Balimela power stations.
 - Status of upcoming hydro project and expected time frame to met HPO target of MoP, GoI.
 - Steps being taken to address the slit deposit problem in various power plants, which decrease the live storage capacity of the reservoir.
 - Details of secondary energy fund and utilization of such fund.
 - Status of implementation of floating solar power generation utilizing the reservoir/pondage of existing Hydro power stations, as per provision in Odisha RE policy 2022 of GoO.

- Status of capital maintenance of Unit 1&2 of Chiplima Power House and Repair & Renovation of power channel from Burla Power House to Chiplima Power House.
- (e) OHPC is directed to take up the matter with DoWR regarding loss of generation due to restriction imposed not to generate below 595 ft RL.
- (f) At present, people of the State are considering solar energy as a feasible option for powering their homes and businesses because of increase in their own electricity consumption as well as energy costs day by day. Further, due to the formulation/ introduction of Renewable Energy Policy 2022 by the Government of Odisha, many industries/firms in Odisha are now interested to go for generation of power either from Renewable Energy Sources like Solar or Wind in Odisha. We therefore expect a large-scale integration of Solar generation in the State Power System in near future. It is a fact that in absence of a proper storage system, the generation of Solar power can only be best utilized during the day time. Therefore, SLDC shall make use of the flexibility provided by conventional hydro generation plants and the capacity of inter-Grid tie-lines to accommodate Solar energy generation to the largest extent possible subject to Grid security.
67. The application of OHPC in Case No. 74/2022 for approval of its Annual Revenue Requirement and fixation of generation tariff of its different power stations for the FY 2023-24 is accordingly disposed of.

Sd/-
(S.K. RAY MOHAPATRA)
MEMBER

Sd/-
(G. MOHAPATRA)
MEMBER