

Summary of ARR & Tariff Filings

Submitted by

OHPC

For

FY 2024-25

SUMMARY OF ARR PROPOSAL OF OHPC FOR FY 2024-25

1. Installed Capacity

The installed capacity of various Hydro Stations owned by Odisha Hydro Power Corporation (OHPC) is 2099.8 (2039.8+ 60) MW including Odisha 50% share of Machhkund. The Installed Capacity of MHEP is 120MW (i.e. 17MW x 3 = 51MW and 23MW x 3 = 69MW). So the 50% Odisha Share from MHEP being 60 MW, has been considered for computation of total Installed Capacity of OHPC.

2. Design Energy of OHPC Stations

The Design Energy (DE) of a Hydro Power Station is an important parameter for the determination of Tariff. The approved Design Energy of OHPC Power Stations for the FY 2023-24 is given in the table below:

**Table -1:
Design energy approved for FY 2023-24**

(in MU)			
Sl. No.	Name of the Power Station	Design Energy (DE)	Design Energy for sale
1	RHEP	525.00	519.75
2	UKHEP	832.00	823.68
3	BHEP	1183.00	1171.17
4	HHEP	684.00	660.52
5	CHEP	490.00	485.10
6	UIHEP	1962.00	1942.38
Sub Total		5676.00	5602.60
7	MHEP	262.50	259.875
Total		5938.50	5862.475

During years of Hydrology failure, OHPC sustains a substantial loss in Revenue due to a shortfall in the recovery of Energy Charges. In response to the OHPC's claim towards Hydrology Failure Hon'ble OERC had observed in the Tariff Order of OHPC for FY 2014-15 as follows:

"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 the necessary comfort to the consumers of the state.

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

Table-2

(in MU)								
Sl. No.	Name of the Power Station	Design Energy (DE)	Saleable Design Energy (DE)	Actual Gen. of 2018-19	Actual Gen. of 2019-20	Actual Gen. of 2020-21	Actual Gen. of 2021-22	Actual Gen. of 2022-23
1	RHEP	525.00	519.75	745.97	647.71	980.77	866.36	732.53
2	UKHEP	832.00	823.68	923.88	813.04	771.26	450.90	531.94

Sl. No.	Name of the Power Station	Design Energy (DE)	Saleable Design Energy (DE)	Actual Gen. of 2018-19	Actual Gen. of 2019-20	Actual Gen. of 2020-21	Actual Gen. of 2021-22	Actual Gen. of 2022-23
3	BHEP	1183.00	1171.17	1677.63	1510.40	1594.30	1026.65	980.72
4	HHEP	684.00	677.16	380.69	502.25	597.39	714.26	869.91
5	CHEP	490.00	485.10	158.51	234.00	322.37	268.42	319.53
6	UIHEP	1962.00	1942.38	2142.60	2234.19	1713.10	1155.19	1351.49
Total		5676.00	5619.24	6028.68	6004.23	5979.19	4481.78	4786.12

Status of Secondary Fund as on 31.03.2022:

Status of Secondary Fund as on 31.03.2022 OHPC has calculated the revenue earning out of sale of secondary energy from FY 1996-97 to FY 2022-23. As observed the secondary energy fund has always remained in deficit, which is approximately Rs 146.042Crs.

OHPC has received Rs 4.53Crs from the industrial units utilizing water from different reservoirs towards compensation for the loss of generation during the FY 2014-15. Some of the industries have also paid some amount towards the energy compensation during the current period. Accordingly, OHPC have received total amount Rs21.3747 Crs from HHEP, Burla up to July 2023 & Rs 0.543 Crs from CHEP, Chiplima upto September 2023. Though OHPC was adjusting this amount in the secondary energy fund, but CAG of India has observed to keep this compensation in a separate account, as the matter is under sub-judice in the Court of Law.

Revision of Design Energy of HHEP and CHEP:

OHPC is constantly losing energy charges for 78MU (i.e., 31.0MU for restriction up to 595ft RL & another 47MU for restriction from 595ft to around 600ft RL) every year on account of restriction in generation from Hirakud reservoir below 600ft. R.L by DoWR, Govt. of Odisha

OHPC has also requested the Department of Energy & Department of Water Resources regarding reduction in Design Energy in respect of HHEP & CHEP for computation of Tariff nor compensating for the loss of energy incurred by OHPC as per the provision of Clause No. 11 of the Electricity Act' 2003. Pending decision from DoE/ DoWR, OHPC has not considered reduction in Design Energy of HHEP, Burla & CHEP, Chiplima due to restriction in Generation at HHEP, Burla below RL 595ft in Hirakud Reservoir.

Considering the above facts, OHPC proposes the following Design Energy for its Power stations for computation of tariff for the FY 2024-25.

**Table-3
Proposed Design Energy for FY 2024-25**

(in MU)					
Sl. No.	Name of the Power Station	Design Energy	Saleable Design Energy for GRIDCO	Design Energy proposed for FY 2024-25	Saleable Design Energy proposed

		approved for FY2023-24	approved for FY 2023-24		for GRIDCO for FY 2024-25
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		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

OHPC pray before the Hon'ble Commission to approve the proposed Saleable Design Energy of different power stations of OHPC for FY 2024-25 as furnished in the Table above. Further the deficit of secondary energy fund amounting to Rs 146.042 Cr may kindly be recognized.

3. Reservoir Level and Anticipated Generation for FY 2024-25

The Reservoir Level of OHPC Power Stations as on 15.11.22 vis-à-vis on 15.11.23 is given below:

**Table – 4:
Reservoir level of power stations**

Sl. No.	Reservoirs	As on 15.11.2022	As on 15.11.2023
1.	Rengali	122.62mtr.	122.72mtr.
2.	Kolab	855.55mtr.	855.71mtr.
3.	Balimela	1482.80ft.	1487.90ft.
4.	Hirakud	628.43ft.	627.93ft.
5.	Indravati	637.94 mtr.	636.02 mtr.

The actual generation of different Power Stations under OHPC from 01.04.2023 up to 15.11.2023 and anticipated generation up to 31.03.2024 for the FY 2023-24 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 is furnished below.

**Table – 5:
Actual /Anticipated Energy Generation**

(In MU)

Sl. No.	Name of the power stations	Actual generation from 01.04.23 up to 15.11.23	Anticipated generation from 16.11.23 to 31.03.24 based on DoWR & DoE Schedule	Total Anticipated generation for the FY 2023-24 based on DoWR & DoE Schedule
1.	RHEP	629.31	123.48	752.79
2.	UKHEP	368.01	237.98	605.99
3.	BHEP	717.04	332.98	1050.02
4.	HHEP	754.18	107.48	861.66

5.	CHEP	226.98	69.02	296.01
6.	UIHEP	1235.73	459.48	1695.21
Total		3931.25	1330.42	5261.68

So, there shall be shortfall of 414.32MU from the approved designed energy of 5676MU. 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 Hon'ble Commission.

4. Project Cost

The revalued cost of old power stations under OHPC is Rs.1196.80 Crs 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) had approved the same. Further, Hon'ble Commission, in the order dated 20.03.2008 has 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 was determined on the historical cost of old power station of OHPC for Rs. 479.80 Crores as per the Notification No. 1068 Dtd. 29.01.2003 of DoE, GoO.

Hon'ble OERC had approved New Addition of Old Power Stations of OHPC from 01.04.1996 to 31.03.2022 as Rs 883.60 Crs and that of UIHEP as Rs1282.81 Crs. So, total approved new addition upto FY 2021-22 was Rs2166.41Crs.

OHPC had incurred new addition of Rs 119.813(Rs104.552Crs for old power stations including IDC of Rs 2.94 Cr of HHEP,Burla & Rs 15.261Crs for UIHEP) as per INDAS-2015 audited accounts for FY2022-23.

Considering the total approved capitalization up to FY 2021-22 & audited expenditure for FY2022-23 on account of Additional Capitalization, IDC for HHEP, Burla & PSDF grant as described above the Project Cost considered for Computation of Tariff for FY2024-25 are furnished in the Table below:

**Table-6:
Project Cost for tariff Calculation for FY 2024-25**

(in Rs. Cr.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2022-23	Less PSDF grant during FY2022-23	New additions proposed for old power stations & New Addition of UIHEP excluding Original Project Cost considered in Tariff for FY2024-25	Project Cost considered Tariff calculation based on Historic Cost
1	2	3	4	5	6=2+5-3-4
RHEP	91.09	0.142	0.000	71.398	162.347
UKHEP	108.31	0.504	2.690	35.508	140.624
BHEP	115.42	3.286	0.000	338.919	451.053
HHEP	72.75	18.489	0.000	421.634	475.895
CHEP	92.23	2.775	0.000	120.693	210.148
Sub Total	479.80	25.196	2.690	988.152	1440.066

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2022-23	Less PSDF grant during FY2022-23	New additions proposed for old power stations & New Addition of UIHEP excluding Original Project Cost considered in Tariff for FY2024-25	Project Cost considered Tariff calculation based on Historic Cost
UIHEP	1194.79 (Approved Project Cost)	5.305	0.305	103.281	1292.461
Total	1674.59	30.500	2.995	1091.433	2732.527

5. Determination of Annual Fixed Cost

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

a. Return on equity (ROE):

Based on the Commission's tariff order dtd 19th April, 2002 and subsequent government notification the ROE to OHPC was allowed on new investments made after 01.04.1996. According to Clause No. 20(2) of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020, income tax of the Generating Company shall be recovered from the beneficiaries (income tax on other income streams shall not be considered).

Return on Equity is calculated @15.5% of Equity Capital for old power stations of OHPC & @16% of Equity Capital for UIHEP as per provisions stipulated in OERC (Terms & Condition

for Determination of Generation Tariff) Regulations 2020 with a provision of reimbursement of Income Tax paid for the FY 2022-23.

Table – 7:
Computation of RoE for different power stations of OHPC for FY 2024-25
(in Rs. Cr.)

Name of the Power Station	Capital Addition considered for RoE upto FY 2024-25 (in Crs) {refer col. 8 of Table-12}	Share of Equity (%)	Value of Equity capital (in Crs)	ROE @15.5% for old Power Station & @16% for UIHEP for 2024-25 (in Crs)
1	2	3	4=2*3	5=15.5% or 16% of 4
RHEP	71.398	30	21.420	3.320
UKHEP	32.818	30	9.845	1.526
BHEP	338.919	30	101.676	15.760
HHEP	421.634	30	126.490	19.606
CHEP	120.693	30	36.208	5.612
UIHEP	1292.461	25&30	328.264	52.522
Total	2277.923		623.903	98.346

In addition to the above OHPC is submitting herewith the calculation of RoE for the FY2023-24 to claim the differential unapproved RoE in the Tariff application of OHPC for the FY2024-25.

Table – 8:
Computation of RoE for different power stations of OHPC for FY 2024-25 (in Rs. Cr.)

Sl. No.	Name of the Power Stations	ROE @15.5% for old Power Station & @16% for UIHEP for 2024-25 (in Crs)	Differential unapproved RoE for the FY2023-24	Total RoE claim of OHPC for the FY2024-25
	1	2	3	4=2+3
1	RHEP	3.320	0.004	3.324
2	UKHEP	1.526	0.023	1.549
3	BHEP	15.760	0.336	16.095
4	HHEP	19.606	0.662	20.268
5	CHEP	5.612	0.322	5.934
6	UIHEP	52.522	0.039	52.561
7	Total	98.346	1.386	99.733

Thus, OHPC has appealed before the Commission to approve Rs. 99.733 Crs. as RoE for FY 2024-25 for different power stations of OHPC.

b. Interest on loan

The loan liabilities on OHPC consist of state Government loan, PFC loans and Normative Loans. The State Government loan liabilities outstanding as on 01.04.1996 is given in the table below:

**Table – 9:
Loan liabilities transferred to OHPC by State Govt.**

(Rs. in Crs)

Sl. No.	Description of loan	Amount as on 01.04.1996
1.	9.8% loan	39.20
2.	13% or 7% loan (UIHEP)	497.86
3.	Interest free loan (UIHEP)	132.14
4.	13% loan (Potteru)	14.30
5.	Zero Coupon Bond-I	383.10
6.	Zero Coupon Bond-II	383.10

Normative Loans - Though, 9.8% State Govt. loan has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP for the FY2024-25 are considered @ 9.8% as per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2024-25 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2024-25 based on PFC interest rate applicable to HHEP, Burla. The Normative loan of UIHEP for the FY2024-25 due to the additional capitalization based on audited accounts of FY 2022-23 is considered @7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms. Hon'ble Commission has never allowed interest and principal of the Normative Loan of Rs 78.74Crs in previous Tariff approvals of OHPC. The accumulated interest calculated up to 31.03.2024 will be Rs 134.92 Crore at the prevailing rate of interest of State Govt. Loan @7%. Hence, based on the earlier directions of Hon'ble OERC, OHPC has not considered the impact of interest on Govt Loan & Normative Loan of UIHEP in the Tariff Calculation of OHPC for the FY2024-25. Similarly, OHPC has not claimed the accumulated interest on Govt Loan & Normative Loan of UIHEP as regulatory asset in view of the directives of Hon'ble OERC.

**Table-10:
Statement of Outstanding Loan & Interest thereon for the FY 2024-25**

(Rs. in Crs.)

Sl. No.	Source of Loan	Loan O/S as on 01.04.2024	Interest on Loan for the FY 2024-25
1	State Govt. Loan of UIHEP @7%*	74.64	0.00
2	Normative Loan of Rs78.74Cr for UIHEP, Mukhiguda @ 7%	78.74	0.00
3	Normative Loan of CHEP@ 9.80%	35.95	3.28
4	Normative Loan of UKHEP@ 9.80%	5.65	0.53
5	Normative Loan of HHEP@ 8.75%	102.63	9.36
6	Normative Loan of BHEP@ 9.60%	76.56	6.98

7	Normative Loan of RHEP@ 9.80%	7.29	0.68
8	Normative Loan of UIHEP@ 7.0%	52.16	3.47
Total		433.62	24.294

The Power Station wise interest on loan and guarantee commission as described above is given below:

**Table-11:
Interest on loan of different power house of OHPC (Rs. Cr.)**

Sl. No.	Source of loan	Interest on loan for FY 2024-25						(Rs. In Crs)
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	TOTAL
1.	Normative loan	0.679	0.526	6.982	9.360	3.279	3.468	24.294
2.	Govt. Loan	-	-	-	-	-	-	-
Total		0.679	0.526	6.982	9.360	3.279	3.468	24.294

Therefore, OHPC prays before the Hon'ble Commission to approve Rs 24.294 Crs. in the tariff of OHPC for the FY2024-25 for payment of Interest towards Normative Loans of the different Power Stations of OHPC as mentioned in the above table.

- c. Depreciation:** Depreciation is the refund of capital subscribed and is a constant charge against an asset to create a fund for its replacement.

The comparative statement for actual repayment of loans and depreciation @2.57% for the FY 2024-25 are shown in the Table below to arrive at the depreciation amount to be claimed in the ARR & Tariff of OHPC for the FY 2024-25.

**Table -12:
Depreciation Claim for the FY 2024-25 (Rs. in Crs)**

Sl. No.	Power Stations	Project Cost	Depreciation @ 2.57%	Loan Repayment	Depreciation Claimed for the FY2024-25	Remark
1.	RHEP	162.35	4.17	0.73	4.17	Depreciation @ 2.57%
2.	UKHEP	140.62	3.61	0.56	3.61	Depreciation @ 2.57%
3.	BHEP	451.05	11.59	7.66	11.59	Depreciation @ 2.57%
4.	HHEP	475.90	12.23	10.26	12.23	Depreciation @ 2.57%
5.	CHEP	210.15	5.40	3.60	5.40	Depreciation @ 2.57%
6.	UIHEP	1292.46	33.22	35.45	35.45	Equal to loan Repayment
Total		2732.53	70.23	58.25	72.46	

Operation a OHPC prays before the Hon'ble Commission to approve Rs72.46Crs towards Depreciation for the FY 2024-25 for the different Power Stations of OHPC as mentioned in the above table.

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

O & M Expenses has been calculated as per the Generation Tariff Regulations, 2020. Accordingly, OHPC for computation of O&M Expense of different power stations of OHPC for the FY 2024-25 has escalated the average actual O&M expenses for FY 2021-22 & FY2022-23 @ 5.72% for FY2023-24 & FY2024-25 as per the principle adopted by the Hon'ble Commission in the tariff orders of OHPC for the FY2022-23 & FY2023-24 mentioned above.

It may be noted here that Hon'ble OERC had deducted an amount of Rs11.07Crs 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 2023-24. Assuming the same principle, OHPC has deducted Rs 10.80 Crs from the escalated O&M expenses of UIHEP for the FY 2022-23 for the calculation of O & M expense for FY2024-25.

Table- 13:

Statement of O & M Expenses for different power stations of OHPC for FY 2024-25

(Rs.in Cr.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2023-24 Approved by OERC.	61.327	55.668	60.214	58.967	25.485	261.661	77.166		338.827
2	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
3	O & M expenses for FY 2022-23 as per Audited Account	60.485	65.215	52.003	36.820	17.903	232.427	59.886	41.617	333.931
4	Average O&M expenses (2021-22 & 2022-23)	54.163	53.997	47.032	39.860	19.077	214.129	61.053	44.084	319.265
5	Escalation @5.72% for FY2023-24	57.261	57.086	49.722	42.140	20.168	226.377	64.545	46.605	337.527

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
6	Escalation @5.72% for FY2024-25	60.536	60.351	52.566	44.551	21.321	239.326	68.237	49.271	356.834
7	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	6.039	7.730	12.319	6.952	1.739	34.778	14.493	49.271	
8	Total O & M Expenses for the FY 2024-25	66.575	68.081	64.885	51.502	23.061	274.104	82.730		356.834
Less: Amount Received from DoWR.										
9	Less : Income to be received from DOWR towards dam maintenance of UIHEP								(-) 10.80	(-) 10.80
6	Total O&M Expenses for the FY 2024-25.	66.575	68.081	64.885	51.502	23.061	274.104	71.930		346.034

OHPC prays before the Hon'ble Commission to approve Rs346.034Cr towards O&M Expenses for the FY 2024-25 for the different Power Stations of OHPC as mentioned in the above table.

e. Interest on Working Capital

Hon'ble OERC has stipulated the following regarding rate of interest on working capital for OHPC at clause no. 24(4) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020.

Table -14 below summarizes the station wise interest on working capital as proposed by the OHPC for FY 2024-25.

**Table- 14:
Interest on Working Capital for FY 2024-25**

(Rs. in Crs)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost for 45 days	9.57	9.09	12.27	11.51	4.64	47.10	20.68	67.77
2	Maintenance spares @ 15% of O&M expenses	9.99	10.21	9.73	7.73	3.46	41.12	10.79	51.91
3	O&M expenses for one month	5.55	5.67	5.41	4.29	1.92	22.84	5.99	28.84
4	Total working capital	25.11	24.98	27.41	23.53	10.03	111.05	37.46	148.51
5	Interest on working capital calculated @ 11.50%	2.887	2.873	3.153	2.706	1.153	12.771	4.308	17.079

OHPC prays before the Hon'ble Commission to approve Rs 17.079Crs towards Interest on Working Capital for the FY 2024-25 for the different Power Stations of OHPC as mentioned in the above table.

f. NON- TARIFF Income

Clause 41 ,26 (1) 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.

Table -15

Non-Tariff Income of different Power Stations of OHPC for FY 2024-25

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
1	Rent of land & buildings	0.051	0.074	0.177	0.146	0.021	0.111	0.581
2	Sale of scrap	0.266	1.254	0.024	0.296	0.018	0.886	2.743
3	Advertisement	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Total deductible Non- Tariff Income	0.317	1.328	0.201	0.442	0.039	0.997	3.324

5	50% of total deductible Non-Tariff Income to be considered in ARR	0.159	0.664	0.100	0.221	0.020	0.499	1.662
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Therefore, OHPC prays before the Hon'ble Commission to approve the deductible non-tariff income of Rs1.662Cr\$ different power stations for the FY2024-25 as shown in the Table above.

Further OHPC has adjusted Rs4.954Cr\$ (i.e. Rs24.77Cr\$/5= Rs4.954Cr\$) as 2nd instalment of recovery of excess Non-Tariff income deducted by Hon'ble OERC in the Tariff of OHPC for FY2021-22. The above Rs4.954Cr\$ is apportioned among the different Power Stations of OHPC in the ratio of Installed Capacity.

Annual Revenue Requirement (ARR) & Tariff for the FY 2024-25

Based on the above parameters the power station wise ARR and tariff of OHPC have been calculated for the FY 2024-25 as follows:

The values of ARR along with its different components and the average tariff computed considering the Saleable Design Energy of 5602.60MU for the FY 2024-25 is shown in the table below.

Table-16:

Station wise ARR and Tariff for the FY 2024-25 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 Cr\$.)								
Return on Equity	3.324	1.549	16.095	20.268	5.934	47.17	52.561	99.733
Interest on Loan	0.679	0.526	6.982	9.360	3.279	20.83	3.469	24.294
Depreciation	4.172	3.614	11.592	12.231	5.401	37.01	35.450	72.460
O&M Expenses	66.575	68.081	64.885	51.502	23.061	274.10	71.930	346.034
Interest on working capital	2.887	2.873	3.153	2.706	1.153	12.77	4.308	17.079
Total Cost	77.638	76.643	102.707	96.067	38.827	391.881	167.718	559.60
Less Non-Tariff Income as per Audited	0.159	0.664	0.100	0.220	0.020	1.163	0.499	1.662

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
Account for FY2022-23								
Adjustment of recovery of 2nd installment 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 power to CSPDCL for 2024-25				3.321		3.321		3.321
Total ARR for FY2024-25	78.086	76.756	103.846	93.225	38.982	390.895	168.676	559.571
Average Tariff (p/u)	150.24	93.19	88.67	141.14	80.36	106.80	86.84	99.88

6. Two-Part Tariff

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:

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

Where,

Aux = Normative auxiliary energy consumption in percentage

N = No of days in the month

IC = Installed capacity in MW of the complete generating station

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

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

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

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

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

- 3) Energy charge rate (ECR) in Rupees per Kwh on ex-bus plant basis for a hydro generating station shall be determined up to three decimal places based on the following formula, subject to provisions in clause (4.41) of OERC (Terms and Conditions for determination of Generation Tariff regulations) 2014.

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

Where,

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

Accordingly, annual capacity charges, annual energy charges and energy charge rate of different power stations of OHPC for FY 2024-25 is shown below.

**Table-17:
Proposed Capacity charge and energy charge of OHPC power stations for FY 2024-25**

Name of the Power Stations	Annual Fixed Cost (Rs in Crs.)	Capacity Charges (Rs in Crs.)	Energy Charges (Rs in Crs.)	Saleable Design Energy (in MU)	Energy Charge Rate(P/U)
RHEP, Rengali	78.086	39.043	39.043	519.75	75.118
UKHEP, Baraniput	76.756	38.378	38.378	823.68	46.593
BHEP, Balimela	103.846	51.923	51.923	1171.17	44.334
HHEP, Burla	93.225	46.613	46.613	660.52	70.570
CHEP, Chiplima	38.982	19.491	19.491	485.10	40.180
UIHEP, Mukhiguda	168.676	84.338	84.338	1942.38	43.420

OHPC prays before the Hon'ble Commission to approve the AFC, ACC, AEC & ECR of its power stations as indicated in Table above for the FY 2024-25.

7. Application Fee and Publication Expenses

As per the OERC tariff regulation 2020, the application filing fee and the expenses incurred on publication of notices may in the discretion of the commission, be allowed to be recovered by the generating company directly from the beneficiaries. As per the Commission notification no. 1992 dated 31.08.2009 in the clause no. 17, Commission has fixed a fee of Rs. 5000/- per MW as application fee for determination of tariff of conventional fuel based plant/ hydel plants, subject to maximum limit of Rs. 25,00,000/- (Rupees Twenty-five lakhs). In consideration of the above order, OHPC has to deposit application fee of Rs. 25 Lakhs for the FY2024-25. OHPC may be allowed to recover the same amount from GRIDCO. So, considering Rs.1.458Lakhs as last year publication expense, OHPC propose Rs2.0Lakhs as reimbursement towards publication expenses for FY2024-25. Therefore, Hon'ble OERC may kindly approve Rs26.70 Lakhs to be reimbursed from GRIDCO towards application fees and publication expenses as shown in the Table below.

Table -18:
Application Fees and Publication Expenses FY 2024-25

(Rs. In lakhs)

Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2024-25	25.00
2	Publication expenses for FY2024-25	2.00
	Total	27.00

8. Electricity Duty on Auxiliary Consumption

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.

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.

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 in the Dept. of Energy has revised the rate of ED vide notification No.912 dated the 12.05.2017. Accordingly, the Rate of Electricity Duty / Unit has been revised from 30 paisa per Unit to 55 paisa 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 2024-25 as reimbursement.

**Table-19:
ED claim for OHPC power station for FY 2024-25**

(Rs. in Crs)

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

Hence, OHPC prays before the Hon'ble OERC to kindly approve reimbursement of ED amounting to Rs3.122Cr for the FY 2024-25 from GRIDCO which may kindly be provisioned in the ARR.

9. License Fee for Use of Water for Generation of Electricity

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.

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 FY2020-21, @1.5paise/ unit for the FY2021-22, @1.6paise/ unit for the FY2022-23, @1.7paise/ unit for the FY2023-24 and got reimbursed from GRIDCO. In a similar manner OHPC shall pay Licence Fee on water used for generation of electricity for FY 2024-25 @1.8 paise/ unit amounting to Rs 10.217 Cr based on the approved design energy for generation as shown in the table below, which shall be reimbursed from GRIDCO on actual basis.

Table – 20:

License fee for Consumption of water for generation of electricity FY 2024-25

(Rs. in Crs)

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @0.018Rs/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.945	OHPC will claim reimbursement @Rs 0.018/Kwh on actual generation of each Power Station.
UKHEP	832	1.458	
BHEP	1183	2.129	
HHEP	684	1.231	
CHEP	490	0.882	

UIHEP	1962	3.532	
Total	5676	10.217	

Hence, OHPC prays before the Hon'ble Commission for approval of provisional amount of Rs10.217Cr towards License fee mentioned in the table above as Reimbursement from GRIDCO subject to approval of reimbursement to the extent of actual water Cess paid to the Govt. based on actual generation pattern for the FY2024-25.

10. SLDC Charges

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

The Commission provisionally approved Rs 1.546 Cr to be reimbursed from GRIDCO by OHPC towards payment of SLDC fees & charges for the FY 2023-24 considering 1681 MW towards average available Capacity of OHPC power Stations for the FY 2023-24, 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 2024-25, the previous year approved charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable by OHPC for the FY 2024-25

Accordingly, Rs. 1.6344Cr. has provisionally been considered as fees & charges of SLDC payable by OHPC on the average available Installed Capacity of 1798.80 MW.

11. Reimbursement of Contribution Made to ERPC

OHPC is contributing towards ERPC establishment fund & ERPC fund from the FY 2006-07 onwards as per their demand note. Annually OHPC is paying Rs15Lakhs towards contribution to ERPC Establishment Fund & Rs.1 Lakh towards contribution to ERPC Fund. Assuming the same claim of ERPC, OHPC has claimed this amount of Rs 16.0 Lakhs as a pass through in the tariff for FY 2024-25 to be reimbursed from GRIDCO. Any excess claim (above Rs16.0 Lakhs) made by ERPC for the FY 2024-25 will be claimed as additional reimbursement in the subsequent Tariff year.

12. Income Tax

Calculation of Income Tax for Reimbursement for FY2024-25 based on audited account 2022-23 is detailed below:

**Table-21:
Calculation of Income Tax for Reimbursement by OHPC for the FY 2024-25
based on Audited account 2022-23**

Item No.	Particular	Rs in Cr
1	Total Other Income (for FY 2022-23) (Including dividend from OCPL)	185.91
2	Less: Income tax exempted on dividend from subsidiary/JV/Associate companies u/s 80M of the Income tax Act,1961.	70.44
3	Total Taxable Other income (for FY 2022-23) (Item 1-Item2)	115.47
4	Less : Reimbursement of Income Tax from GRIDCO	2.06
5	Less : Dam Share from DOWR (against O&M expenses)	10.80

6	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)	1.66
7	Net other income (i.e. non-tariff income) on which Income Tax should not be reimbursed (Item 3 – Item 4 - Item 5 –Item 6)	100.94
8	Income tax @ 25.168% on the above net other income as shown above (Item No. 7)	25.41
9	Income tax on capital gain	23.06
10	Total income tax paid by OHPC	65.49
11	Income tax on Generation Business (which is to be reimbursed as per Regulation 26) (item 10 –item 9-item 8)	17.02

Accordingly, OHPC is entitled to get reimbursement of Rs 17.02 Crs towards income tax for FY 2024-25 on core income. Further OHPC prays for approval of differential income tax reimbursement for an amount of Rs1.33Crs from GRIDCO in the Tariff of OHPC for tariff approval of FY 2023-24.

13. Details of Reimbursement Cost:

Total reimbursement cost claimed for the FY 2024-25 is given in the table – 21 below.

**Table 22:
Details of Reimbursement for FY 2024-25**

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
<i>(a) License fee for use of water for generation of electricity for FY 2024-25.</i>	0.945	1.458	2.129	1.231	0.882	3.532	10.217
<i>(b) ED on Auxiliary Energy Consumption for FY2024-25.</i>	0.289	0.458	0.651	0.376	0.270	1.079	3.122
<i>(c) SLDC charges for FY 2024-25.</i>							1.6344
<i>(d) Application fees and publication expenses for FY2024-25</i>							0.270
<i>(e) ERPC charges for FY2024-25</i>							0.160
<i>(f) Income Tax as per Audited Account of FY 2022-23</i>							17.02
<i>(g) Unapproved Income Tax of 2023-24 as per Audited Account of FY2021-22</i>							1.33
Total							33.753

Thus, the Commission may approve the total reimbursement of Rs 33.753 as proposed by OHPC in table above. The above expenditure may be included in GRIDCO's ARR for

reimbursement to OHPC and hence shown as revenue requirement in OHPC filing for FY 2024-25.

14. Tariff for Energy Billing to CSPDCL:

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) was taking a plea since the FY 2006-07 to pay the energy charges at the tariff approved by the Hon'ble 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 generation from HHEP on which billing was made to them as per the Minutes of Meeting dtd.24.12.2004.

Hon'ble Commission have provisionally fixed the ECR for billing to CSPDCL for the FY2015-16 to FY2023-24. OHPC has computed the provisional tariff for billing of Energy to CSPDCL for coming FY 2024-25 as per the CERC (Terms and Conditions of Tariff) Regulation'2019, Upvalued Project Cost of HHEP, Burla & approved additional capitalization from 01.04.1996 to 31.03.2023 as furnished at Table below.

**Table 23:
Tariff for CSPDCL for 2024-25**

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 31.03.2023 - Decapitalization)	533.31Cr
Return on Equity (@ 18.7086%)	29.93
Interest on Loan	11.50
Depreciation (@ 5.28%)	28.16
O & M expenses (Escalated @ 4.77%)	61.78
Interest on Working Capital (@ 12.0%)	3.73
Total ARR	135.10
Average Tariff (p/u)	199.506

OHPC prays Hon'ble OERC to approve the tariff for energy billing to CSPDCL @ 199.506 paisa/unit for the FY 2024-25. As a result Rs 3.321 Cr is to be adjusted from ARR of HHEP, Burla.

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

**Table-24:
Projected Tariff of Machhkund H. E. (J) Scheme for FY 2024-25**

PROJECTED TARIFF OF MACHHKUND (JT.) HEP FOR 2024-25	
	2024-25
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
Drawl 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 2022-23.	1.1177
	(Rs. in Crs.)
1. Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2022-23	57.5011
2. 50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2022-23)	28.7506
3. O&M Expenditure for FY 2024-25 applying the escalation factor	32.1337
4. Total Expected Expenditure during the FY 2024-25	32.1337
5. Provisional Tariff (Paise/Kwh)	123.651
Reimbursements of Statutory Dues/Duty/Cess as applicable shall be considered under the O&M Expenses	

16. Normative Plant Availability Factor (NAPAF)

Hon'ble OERC in Case No. 52 of 2019 had fixed the NAPAF of different power stations for the control period 2019-20 to 2023-24 as follows:

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

Table-25:

Normative Plant Availability Factor proposed by OHPC for FY 2024-25

In view of the above, the NAPAF of different power stations of OHPC for the FY 2024-25 for computation of Capacity Charges may please be extended as mentioned in the Table below:

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

17 TRUING UP:

Hon'ble OERC, OHPC has submitted the Audited Account of different power stations of OHPC from FY 1996-97 to FY2021-22 for joint verification and finalization of the project cost of each power stations so that OHPC could file the Truing Up petition from FY2020-21 to FY2023-24 after completion of the block period. The scrutiny is under progress and OHPC

shall submit a petition for reconciliation of the Project Cost of individual power stations including corporate office from FY1996-97 to FY2019-20. Based on the closing balance of approved project cost OHPC shall file Truing Up petition for FY2020-21, FY2021-22, FY2022-23 & FY2023-24 after completion of the block period as on 31.03.2024 and after finalization of audited account of OHPC for FY 2023-24. OHPC shall file Reconciliation of Project Cost and Truing Up of ARR from FY2020-21 to FY2023-24 mentioned above before filing of ARR & Tariff application for the FY2025-26. The consequential effect of Truing Up shall be given in the Tariff of OHPC for FY2025-26 as an additional effect.

OHPC prays before the Hon'ble OERC to approve the proposal of OHPC for Reconciliation of Project cost of different power stations of OHPC including corporate office from FY1996-97 to FY2019-20 and submission of Truing Up of Capital cost for FY2020-21, FY2021-22, FY2022-23 & FY2023-24 after completion of block period and after finalization of audited account of OHPC for FY 2023-24.

**18 COMPLIANCE TO THE DIRECTIVES AS PER ARR AND
TARIFF ORDER OF OHPC FOR FY 2023-24**

PARA NO	DIRECTIVES OF OERC	COMPLIANCE
66(a)	<p>“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.</p> <p>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 proactive steps for capacity addition and plan accordingly in consultation with Government of Odisha and GRIDCO. Long term generation planning study should be carried out along with OPTCL.”</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> <p>(i) Upper Indravati PSP with Installed Capacity of 600MW and annual generation of 1040MU is proposed near the existing UIHEP. DPR of the project is in advance stage for approval by CEA. OHPC is planning to implement this project in the FY 2025-26.</p> <p>(ii) Upper Kolab PSP with Installed capacity of 320MW and annual generation of 506.60 MU is proposed near the existing UKHEP. However, as per suggestion of CEA & CWC, it was planned to enhance the Installed capacity of UKPSP from 320 MW to 600 MW. Accordingly Hydrology study is going on. OHPC is planning to implement this project in the FY 2026-27.</p> <p>(iii) Balimela PSP with installed capacity 500 MW and annual generation of 1095 MU is proposed near the existing BHEP. OHPC is</p>

		<p>planning to implement this project in the FY 2026-27.</p> <p>(iv) OHPC has identified 9 off the river closed loop PSP with projected total capacity of the order of 10900 MW. OHPC is preparing the PFRs . GRIDCO has been duly informed. OHPC will be pursuing for development of these projects.</p> <p>The detail status report of the above Pump Storage Projects of OHPC are attached at Annexure 24</p> <p>Kharag Hydro Electric Project with installed capacity 63 MW and annual generation of 233.5MU is proposed at Kandhamal District. The detail status report of the Kharag Hydro Electric Project is attached at Annexure 25. OHPC is planning to implement this project in the FY 2025-26.</p>
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 provide the cleanest form of energy for meeting peak demand, HPO and for balancing the intermittency in RE penetration. It would help in in socio-economic development of people of the State of Odisha.</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. The detail status report of the above Pump Storage Projects of OHPC are attached at Annexure-24.</p> <p>Kharag Hydro Electric Project with installed capacity 63 MW and annual generation of 233.5MU is proposed at Kandhamal District. The detail status report of the Kharag Hydro Electric Project is attached at Annexure-25.</p> <p>Being the wholly owned subsidiary company of OHPC Ltd, the main objectives of GEDCOL 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.</p> <p>The detail report of completed projects, projects to be developed under JV mode, other solar projects, Small Hydroelectric Projects & Floating solar Projects of GEDCOL are attached at Annexure- 26 for reference.</p>
66 (c)	<p>OHPC should expedite the R & M / uprating work associated with HHEP, RHEP & UKHP which</p>	<p>The RLA & LE study of Unit-7 of HHEP, Burla is not be taken up due to following reason.</p>

	<p>would add generation capacity with minimum investment and without any environmental impact.</p>	<ul style="list-style-type: none"> - There is no major work required in Turbine & Generator, all the concerns can be addressed with the capital maintenance of unit and the machine can run smoothly. - The new 60 MVA Generator Transformer of the unit was installed in 2015. The capacity upgradation of the unit could not be taken up as the tail race of HHEP, Burla could not accommodate additional water discharge due to capacity upgradation. - It is being felt that some useful life of the Unit-7 of HHEP, Burla is still left. Hence, the Units can be operated for few more years. - In this context, considering the down time & cost involvement, it may not be beneficial to take up R&M works at this juncture instead it will be advisable to go for capital maintenance work of the unit. <p>The RLA & LE study of all the 5 units of RHEP, Rengali are not be taken up due to following reason.</p> <ul style="list-style-type: none"> - The generator of unit-1 and the turbine of unit-2 have already been replaced in the year 2012 & 2013 respectively. - The Automatic Voltage Regulator of all the 5 units have already been replaced with Digital Automatic Voltage Regulator in phased manner in between the year 2007 to 2019. - All units are in running condition without any major problem. In order to make the units problem free and grid responsive the following points needs to be addressed. <ul style="list-style-type: none"> a. Vacuum breaking valve of the penstock needs to be redesigned. b. All electromechanical relays in the unit control panel to be replaced by numerical relays. c. Governing system of unit-3, 4 & 5 (both electrical & mechanical system) to be replaced. In case of unit-1 & 2 only the old mechanical portion to be replaced to make compatible with the already replaced MAX DNA (BHEL make) electrical system.
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		<p>d. The aging HP compressor (3 nos) & LP compressor (2 nos) to be replaced.</p> <p>e. The oil, water, air pipe lines of the units are required to be replaced in phased manner.</p> <p>f. The leakage from the concrete to be arrested.</p> <ul style="list-style-type: none"> - The average no. of days of water spillage from the reservoir is 16 days per annum during the last 10 years. Further, during the last 10 years the RHEP is able to achieve its Design Energy. - As there is no constraint of accommodating higher discharge in the tailrace being a natural river, if possible upgradation of capacity of the unit may be explored. But with the upgraded capacity there may not be much change in energy generation. - It is being felt that some useful life of the generating units of RHEP is still left. Hence, the Units can be operated for few more years. - Further, considering the down time & cost involvement, it may not be beneficial to take up R&M works at this juncture instead it will be more prudent to go for need based capital maintenance work of the unit. <p>The RLA & LE study of all the 4 units of UKHEP, Bariniput are not be taken up due to following reason.</p> <ul style="list-style-type: none"> - The generator stator of Unit-1 & 4 have already been replaced & order has been placed with M/s BHEL to supply 02 nos. of Generator stator for replacement in Unit no. 2 & 3. Further, modification of the HP Lub. Oil System for Thrust Bearing pads of Unit No. 1 & 4 has already been done & approval has also been accorded to the unit for similar modification in the Thrust Bearing pads of Unit No. 2 & 3. - The old Automatic Voltage Regulator (AVR) of excitation system of Unit No. 4 has been replaced with Digital Automatic Voltage Regulator (DAVR). Similarly, to replace the old AVR system in Unit No. 1, 2 & 3 with DAVR, the purchase order has been placed with M/s BHEL and the same will be replaced in phased manner. The Governing
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		<p>System of Unit No. 1 & 4 of UKHEP have already been replaced and steps are being taken for replacement of Governing System of Unit No. 2 & 3.</p> <ul style="list-style-type: none"> - The performance of all the four (04) Turbines & Generator Transformers (GTs) of are satisfactory. Action has already been initiated for procurement of one spare GT as decided in the 149th Meeting of the Board of Directors. - The balance of plant & equipment, control system etc. are being repaired/replaced as and when required under operation & maintenance of the plant. - With all the above replacements & modifications, all the four (04) Units of UKHEP are expected to be operated without any major problem for next 10 years. - Further, considering the down time & cost involvement, it may not be beneficial to take up R&M works at this juncture instead it will be more prudent to go for need based capital maintenance work of the unit.
66 (d)(i)	Status of R & M / uprating of existing old hydro plant (Unit-7 of HHEP, Uniy-1 to 5 of RHEP and Unit-1 to 4 of UKHEP based on Residual Life assessment (RLA) study.	The RLA & LE study of Unit-7 of HHEP, Burla, all 05Nos. of Units of RHEP & all 04 Units of UKHEP, Bariniput are not taken up due to the reasons cited in the compliance to the directive under Clause No 66(c) as above.
66 (d)(ii)	Status of implementation of pumped storage plants associated with Upper Indravati, Upper Kolab and Balimela power stations.	The status of implementation of pumped storage plants associated with Upper Indravati, Upper Kolab and Balimela power stations are attached at Annexure- 24 for reference.
66 (d) (iii)	Status of upcoming hydro project and expected time frame to met HPO target of MoP, GoI.	The status of upcoming hydro project and expected time frame to meet HPO target to MoP, GoI is attached at Annexure-25 for reference.
66 (d)(iv)	Steps being taken to address the slit deposit problem in various power plants, which decrease the live storage capacity of the reservoir.	<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 problem etc. are not available with OHPC.
66 (d)(v)	Details of secondary energy fund and utilization of such fund.	The details of secondary energy fund is attached at Annexure-6 and the utilization is made during the short fall of generation during lean period.
66 (d) (vi)	Status of implementation of floating solar power generation utilizing the	Status of implementation of floating solar power generation utilizing the reservoir/pondage of

	reservoir/pondage of existing Hydro power stations, as per provision in Odisha RE policy 2022 of GoO.	existing Hydro power stations are attached at Annexure-26 for reference.
66 (d) (vii)	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.	Status of capital maintenance of Unit 1&2 of Chiplima Power House is attached at Annexure-27 for reference. Status of Repair & Renovation of power channel from Burla Power House to Chiplima Power House as follows. <ul style="list-style-type: none"> • The DPRs have been submitted by M/s NBCC Ltd. for the following works. <ul style="list-style-type: none"> (i) Repair & Renovation of power Channel from RD 0.00 ft. to 16,000.00 ft. (ii) Repair & Renovation of Power Channel from RD 30,000.00ft. to 83,480.00 ft. • DPR is under scrutiny by OHPC. • After obtaining financial concurrence & administrative approval, tendering action for execution of work will be taken up.

19. PRAYER

OHPC prays before the Hon'ble Commission to kindly approve the following in the ARR & Tariff Order of OHPC Power Stations for the FY 2024-25:

- i) The ARR amounting to Rs 559.571Cr. of OHPC Power Stations at an average tariff @ 99.88 Paise/Unit;
- ii) The ACC, AEC & ECR of different Power Stations of OHPC as shown in the Table-16;
- iii) The miscellaneous reimbursement of Rs33.753Crore by OHPC from GRIDCO;
- iv) The tariff for energy billing to CSPDCL @ 1.99506 Rs / kWh considering Up-valued cost of HHEP and the norms of CERC (Terms & Conditions of Tariff) Regulations, 2019;
- v) The tariff of MHEP (Joint Scheme) @ 1.23651 Rs/unit with provision of Rs 32.1337 Crores in the ARR of OHPC & GRIDCO to enable OHPC to make payment of O&M cost to APGENCO as per the new Agreement;
- vi) The average available Installed Capacity as 1798.80 MW for payment of SLDC charges;
- vii) Approval towards Schedule of Payment for recovery of 90% of Project Cost along with interest in respect of UIHEP;
- viii) To allow OHPC for Reconciliation of Project cost of different power stations of OHPC including corporate office for all previous years and submission of Truing Up of Capital cost From FY2020-21 to, FY2023-24 after completion of block period and after finalization of audited account of OHPC for FY 2023-24.

- ix) To accord the in-principle approval of capital maintenance work for procurement & installation of 4 nos of MIVs with seal control system of UIHEP as proposed
- x) To Condone any inadvertent omission, errors, shortcomings and permit the Petitioner to add/change/modify/alter this filing and make further submissions as may be required at a future date;
